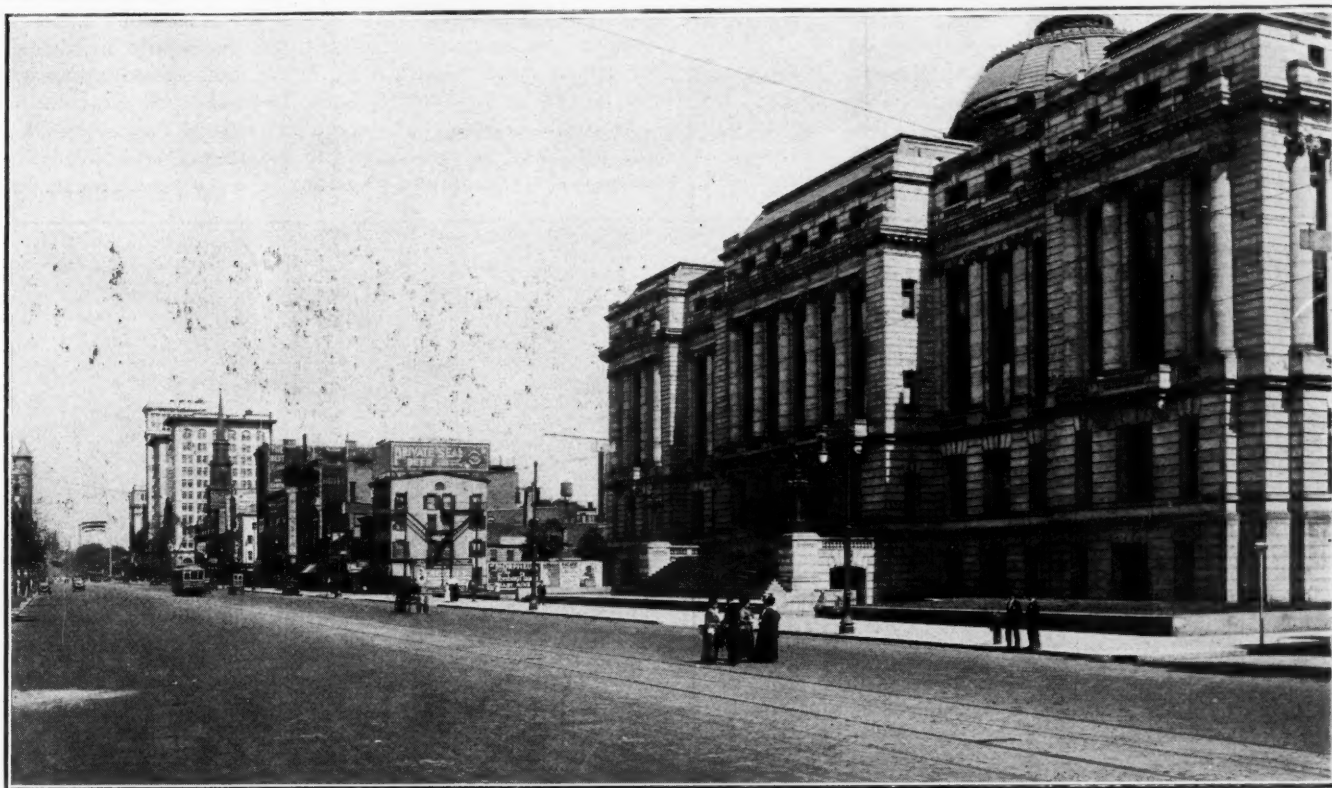


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WOOD BLOCK PAVEMENT OPPOSITE CITY HALL, BROAD STREET, 92-FOOT ROADWAY.

WOOD BLOCK PAVEMENT IN NEWARK

About Two Miles Paved This Year, with Eighteen-Pound Treatment, Laid on a Mortar Bed—Blocks Wet Before Laying—Special Features of Construction—Isles of Safety—History of the Work.

By WILLIAM A. HOWELL.*

The repairing of Broad street with wood block makes the fourth street in Newark, N. J., to be paved with that material. West Park street, from Broad street to Halsey street, was paved in 1904 with 1,278 square yards of United States Wood Preserving Company's block. South 14th street, from Central avenue to Orange street, 4,518 square yards, was paved in 1909 with American Creosoting Company's block; and 366 square yards of Mechanic street at Broad street was paved under private contract in July 1913, also with American Creosoting Company's block.

Broad street is to Newark what Broadway is to Manhattan—it is Newark's most important street, on which are located most of the financial institutions, three large department stores, the Jersey Central and Lackawanna railroad stations, the city hall and post office. Facing the new wood block pavement are three attractive small

parks, Washington, Military and Lincoln parks. The public library is just off the street at its intersection with Washington street. The agitation for a new smooth pavement on Broad street had been kept up for years by the public press before the final award of the present contract for repaving the street with wood block. The old granite block pavement replaced, was laid under different contracts from 27 to 42 years ago. Strange to relate, a portion of the granite pavement laid in 1872 and 1873, at the extreme southerly end of the street, was not included in the present contract. No portion of the old granite pavement was laid with a concrete foundation. The granite in turn replaced a cobble pavement laid in 1854, the first attempt to pave the street.

The granite blocks composing the Broad street pavement came from Rockport, Massachusetts, and Long Cove and Vinal Haven, Maine. They were nearly all 8 inches in depth and averaging over 4 inches wide and 12 inches long, and thousands are being used on the

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paving of a number of napped, recliipped, grouted granite paving jobs in other parts of the city. By 1910 trenches had been opened for the entire length of the granite pavement to permit the installation of electric light and telephone conduits, new high-pressure water mains, new gas mains, and new water, gas and sewer lateral house connections. These numerous excavations left the pavement in a very rough condition, so that when a visiting delegation from Atlantic City rode over the street just prior to the repaving with wood block one of the commissioners made the remark: "Why, Newark is twenty years behind the time, when its principal street is in such shape." The public press had demanded action by the Board of Public Works for several years, but a controversy arose between the mayor and the Board of Public Works as to the kind of material suitable for repaving the street. The mayor had, from the beginning of the controversy, advocated granite block, and during the past six years there has been at least one commissioner in the Board of Public Works in favor of granite block.

that twenty or twenty-five years from now, when the question of the repaving of Broad street will probably come up again, the almost universal use of rubber tires or something similar will cause the abandonment of wood block in favor of stone block or some similar development; but we believe that present conditions demand the use of wood block."

The newly organized Board of Public Works of 1913, composed of five commissioners, took up vigorously the matter of paving the street from Belleville avenue to Poinier street, a distance of approximately 12,200 feet, calling for an area of 88,500 sq. yds. independent of the portion to be paved by the street railway company, where new granite blocks were to be used. The proposed improvement was divided into four sections for convenience, and contracts were tentatively awarded July 31, 1913, for 4-inch wood block on an 8-inch concrete foundation, the blocks to be treated with 20 pounds of oil to the cubic foot. The mayor vetoed this award Aug. 14, 1913. His veto was sustained by the Board of Public Works on Sept. 4, 1913, it requiring four votes to pass a measure



SOUTH BOUND PLATFORM, SOUTH OF MARKET STREET.

The Engineering Department has been constant in its advocacy of wood block for both Broad and Market streets. The City Plan Commission of Newark regarded it as eminently proper for that body to make a study of the traffic on Broad street and recommend a suitable pavement to the mayor who appointed them. After careful investigation, George B. Ford and E. P. Goodrich, consulting engineers to the commission, presented their summary and recommendations to the City Plan Commission as follows:

"Asphalt pavement should be eliminated from consideration, because despite its lower cost, the expense of maintenance makes its ultimate cost as much or larger than either granite or wood block. Furthermore, the constant repair demanded by asphalt means that the streets are always being torn up with the consequent incommencing of the traffic. Wood block and granite are so nearly alike in first cost and in maintenance cost that this item may be eliminated from consideration. Granite block is a little less slippery, and a little longer wearing, and a little easier to repair, and a little easier to superintend and inspect. Its tractive value is slightly less than wood block; it is more dusty and much more noisy. The comparative advantages of the two are nearly equal, but we recommend wood block for Broad street, because of the recent experience in Manhattan and other cities of the country, which has shown a rapidly growing tendency to make quietness the first consideration in determining the type of pavement. We realize that the rapidly growing use of rubber tires tends to swing the balance in favor of granite block, and

over the mayor's veto and only three votes being forthcoming, one commissioner, although personally favoring wood block, deferring to the wishes of the property owners on the lower end of the street, many of whom were opposed to any kind of new pavement. Proceedings were promptly started all over again, the lower section of the street was eliminated from consideration, and new bids were received on Oct. 30, 1913, for 75,500 sq. yds of 4-inch wood block with 18 pounds treatment, the concrete foundation to be 8 inches in thickness. This contract was finally awarded about Feb. 1, 1914.

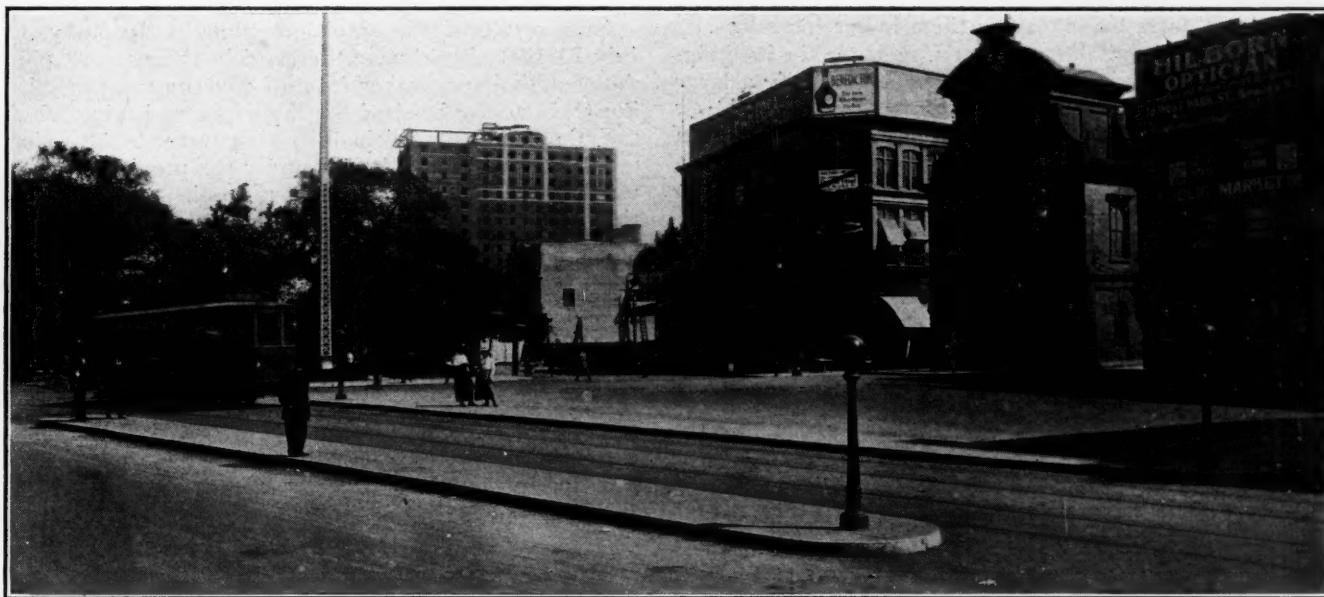
The average price per square yard of the low bidder on the four sections had been \$3.67, and the figure of the low bidder at the second letting was \$3.34 per square yard. The total amount of the successful bidder's contract was close to \$300,000. As under existing laws 70 per cent of the cost of all local improvement is assessed directly on the property owners benefited, but 30 per cent of the total cost being assumed by the city at large, in the case of Broad street the property owners fronting on the new pavement will have to pay \$14, \$15 and \$16 per front foot, according to the width of the roadway in front of their property. The pavement just completed is practically 10,000 feet long, or about 1.90 miles. For nearly one mile of this distance the street is 132 feet wide between building lines, the width of the roadway is

92 feet between curbs, and the space from the street railway track to the curb is about $38\frac{1}{2}$ feet on each side of the street. The grades on Broad street are remarkably flat. On 20 per cent of the total area paved the prevailing grades are less than 3 inches to the hundred feet; on 50 per cent the grades range between 3 inches and 6 inches to the hundred feet; on 20 per cent the curb grades are between 6 inches and 12 inches to the hundred feet, and on but 10 per cent of the pavement are the curb grades in excess of 1 per cent; the steepest grade on the newly paved portion being slightly over 2 per cent for a few hundred feet only.

The specifications were prepared by Morris R. Sherrerd, after a most painstaking and exhaustive study of the subject and consulting most of the leading wood block experts in this portion of the country. The Board of Public Works, accompanied by the chief engineer, inspected wood block pavements in a number of cities. The following extracts from the specifications may prove of interest:

blocks were nearly 4 inches wide and 4 inches deep, running about 38 to the square yard. The remaining 35,500 square yards were manufactured and treated in Newark at the local works of the American Creosoting Company. These blocks were 3 inches wide and 4 inches deep and ran about 55 to the square yard. R. E. Beaty, Assoc. Member Am. Soc. Civ. Engrs., inspected the manufacture and treatment of the blocks at both plants.

The contractor, Hugh F. Gilligan (who had done most of the work in connection with the repaving of Market street, from the Court House to the Pennsylvania Railroad, in 1911), started the Broad street work early in the spring of the present year. At once lawsuits to stop the laying of any wood block pavement were started in the name of a taxpayer and property owner on the street. The first suit was brought before Chief Justice Gummere of the Supreme Court, who denied the writ to restrain the contractor from proceeding with the work. On appeal, before the full bench of the Supreme Court, the decision of the Chief Justice was sustained. Through all



NORTH AND SOUTH BOUND PLATFORMS AT LOWER END OF MILITARY PARK.

"The blocks shall be treated with the preservative, so that the charge for each batch of blocks shall contain an average of 18 pounds per cubic foot. The specific gravity of the preservative shall not be less than 1.07 nor more than 1.12, at a temperature of 38 degrees Centigrade. The blocks comprising each charge shall be selected as nearly as may be so that all the blocks placed in the cylinders will be of the same degree of seasoning.

"The blocks shall be laid on a mortar bed composed as follows: A layer of sand and cement one inch in thickness, mixed dry in the proportion of one part of Portland cement to four parts of sand, shall be spread upon the concrete foundation, and struck to a surface parallel to the grade and contour of the finished pavement. The cushion of sand and cement, unless previously moistened, shall be lightly sprinkled with water, and the blocks shall be immediately set thereon.

"The blocks shall be from 5 to 10 inches long, but shall average 8 inches; they shall be from 3 to 4 inches in width, and they shall be 4 inches in depth. The blocks, however, shall be of uniform width for each city block, and there shall always be a difference between the width and depth of the blocks of not less than one-fourth of an inch. (Note: This last provision was inserted to facilitate the laying of the blocks with the head up.)

"The blocks shall be thoroughly wet by immersion in suitable tubs or tanks of water just before being laid, care being taken to prevent the water from becoming a nuisance or doing any damage to the work."

Of the total area paved, about 40,000 square yards were shipped on schooners from Mobile, Alabama, from the works of the Republic Creosoting Company. These

of the court proceedings the work was continued without cessation by the contractor, who looked after the work personally on the ground. His skill in handling this large contract has been very favorably commented on by the public in general. The only delay of any consequence to the work was caused by the non-arrival of boat loads of wood block from Mobile on the schedule time.

A very interesting feature of the work instituted at the suggestion of one of the local civic bodies, is the installation of "islands of safety," or rather traffic platforms, at important street railway transfer points. It was intended originally to have perhaps three or four of these platforms at the intersection of Broad and Market streets. Upon the request of former Governor Murphy, the first concrete platform was built near his residence, at the junction of Broad street and Clinton avenue. This platform met with almost universal instant approval. Influenced by the favorable comment of the public, the Board of Public Works decided to erect platforms at all of the principal trolley transfer points, some 16 in all. These platforms range in length from 51 feet to 96 feet, the average length being 85 feet; they are all 6 feet wide, are 2 feet outside the rail, and average about 6 inches in height above the level of the pavement. The steps on the local cars of the street

railway company are rather high, and these platforms are especially acceptable to aged and infirm people and to women. As the roadway on the greater portion of the street is about 38½ feet from the rail to the curb, these platforms, except in two instances, do not restrain the free movement of traffic one particle. In the instances referred to, at the Lackawanna railroad station and at Clay street, the demand from the public for the installation of the platform was too urgent to be disregarded by the Board of Public Works.

In the laying of the pavement the Engineering Department has given especial attention to provision for expansion:

1.—By providing in the specifications for expansion joints 1½ inches wide along the curbs, filled with a suitable bituminous filler capable of passing a good penetration test.

2.—By laying the blocks comparatively loose in the pavement, in order not to have any tight joints, sand being carefully broomed into the joints.

3.—By soaking all of the blocks in large tubs for at least 10 minutes before laying them in the pavement.

The Engineering Department also made, in its judgment, ample provision for drainage, by building a large number of additional surface water inlets and side sewer basins and rebuilding nearly all of the old basins on the improvement, so that there is at the present time a good, substantial basin every 200 feet along the curb on each side of the street.

As low crowns are especially desirable on wood block pavements, the street railway tracks were lowered as much as possible, and the gutter depths were reduced to a minimum of from 5 to 5½ inches at various points along the line of the new pavement.

The bleeding on several warm days when the thermometer ranged from 90 degrees to 97 degrees in the shade and when it was undoubtedly 115 degrees to 120 degrees in the sun, or on the pavement, was extremely noticeable, but by prompt sanding no unpleasant consequences followed. The pavement has been sprinkled at least once a day, in the morning, since it was first laid. During the last few weeks a thick coating or crust has formed on top of the blocks, caused by the oozing out of the preservative. The contractor has scraped this off and removed it from the street on several occasions. This coating does not stick to shoe leather to any appreciable extent, and has not produced any unfavorable comment from store-keepers in regard to being tracked in buildings and soiling the floors, as was the case with the wood block pavement on Market street, Philadelphia, a few years ago.

It is quite probable that no important street paving has received more careful supervision during its construction than did this Broad street pavement. It has been under the watchful eye of the chief engineer, who has kept himself well informed as to the progress of the work and who has made valuable suggestions as to the proper handling of the improvement, and with untiring vigilance the deputy chief engineer has followed most diligently the installation of all sub-surface work, whether belonging to the city or the Public Service Corporation. It has also received the daily inspection of the writer, and the very careful and painstaking supervision of the principal assistant engineer of highways, who has given personal attention to each detail of construction, and has kept in touch with the veteran city inspectors, five or six of whom have been on the work constantly. The president of the Board of Public Works, and the chairman of the Street Committee of the Board, have each given much time and attention to the work. In addition to the supervision and inspection by city officials, the property owners

made provision for a separate inspection of their own, retaining Wm. P. Field, M. Am. Soc. Civil Engrs., who is himself a property owner on the street, to look out for their interests. Mr. Field has had two young assistants on the street from early in the spring, watching and checking every portion of the work as it progressed. In view of the provision made for careful and intelligent supervision by the municipality and by the property owners so vitally interested, it is with a feeling of hopeful confidence that most of the citizens of Newark look forward to the future life of this pavement.

SANDUSKY'S COMMISSION-MANAGER GOVERNMENT

**Smallest of Three Ohio Cities to Adopt This Form—
Municipal Construction—Public Utilities—
Initiative, Referendum and Recall.**

By GEORGE L. RINKLIFF.

As a result of the special election in Sandusky, O., July 28, that city became the third in the state to adopt the commission-manager form of government, thus placing Ohio at the head of the list of states having within their boundaries municipalities so governed. The charter was framed and adopted under the provisions of the municipal home rule amendment to the state constitution, and gives to Sandusky autonomy in purely local matters of government, excepting as to taxation and bond issues. Sandusky has a population of more than 20,000 and is the smallest city of the state to declare its preference for the newest form of municipal government. Dayton, the first city of Ohio to adopt a city manager charter, has a population of approximately 125,000, while Springfield, where the commission-manager form of government was adopted last year, has in round numbers 60,000 inhabitants. The experiment of the three Ohio cities is expected to demonstrate the applicability of the city manager plan of government to all municipalities of the country excepting the largest, and nowhere excepting in Ohio are there examples of city manager cities with such a difference in size and population.

The charter adopted by Sandusky provides for a commission of five members, elected at large for terms of four years, with the exception of two of the members of the first commission, who shall be elected for two years. The commission has power to appoint a city manager, city solicitor, and a head of the department of finance and audits, and to create any administrative departments it may find to be necessary. As an instance of the adaptability of commission-manager government to the size of cities, one of the striking contrasts between the Sandusky charter, and the charters of Dayton and Springfield is found in the combination of the offices of auditor and treasurer, which in the two other cities are widely separated, and act as checks upon each other. In the Sandusky charter, the check is supplied by a provision making it the duty of the board of sinking fund trustees to have an annual audit made of the affairs of the department of audits and finance, and requiring quarterly reports showing the expenditures of the city for all purposes, in comparison with similar expenditures during the same relative periods of the two preceding years.

The heads of all departments excepting the city solicitor and city treasurer are directly responsible to the city manager, and are appointed and removed by him. The salaries of the members of the city commission are \$400 a year, while the salaries of all appointive officials are to be fixed by the city commission. No member of

the commission may have direct charge of any department of the city government.

The charter gives to the city the right to make public improvements by direct labor, and makes it mandatory upon the city commission to require the installation of all sewers, mains, conduits and other necessary underground construction, together with the necessary service connections, before the permanent surfacing or resurfacing of a street, and prohibits the granting of permission to make such connections after a street is paved, excepting by the vote of at least four members of the city commission.

The right of the city to purchase or to lease the physical property of a public service corporation operating within the corporate limits of the municipality, is reserved in the provisions of the charter relating to the granting of franchises. Ordinances granting franchises must stipulate a price at which the utility may be either purchased or leased, or provide a method of fixing such a price, but in no event shall the price include any value for the franchise grant; and upon the acquisition of the property of a public service corporation by purchase, lease or condemnation, the franchise shall expire.

Under the new charter, public service corporations must concede to the city the right of controlling the distribution of space in, over, under or across all streets, alleys and public grounds occupied by public utilities, and the city commission has the power to require such fixtures to be reconstructed, relocated, altered or discontinued, and to pass any necessary regulatory ordinances as are required in the interest of the public health, safety or accommodation. Upon the extension of the corporate limits of the city, the provisions of franchises shall apply to the property of public service corporations located in the new territory. This provision disposes of a perplexing problem which has confronted the growing cities of Ohio for several years, since it was found that municipal franchise provisions could not be applied to the property of public service corporations annexed to cities with new territory.

All public utilities are required to make annual financial reports to the city commission, and to keep their books in Sandusky, where representatives of the city shall have access to them at all reasonable times. Grants may not be leased or assigned except with the consent of the city commission, and the period of all grants is limited to twenty years, with the right conceded to the city to annul at its option the whole of any grant in the event that the holder of the grant, or any of its stockholders or creditors, shall have any portion of the grant set aside.

The provisions of the charter relating to franchise grants apply only to such as shall be granted in the future, and do not affect franchises under which public service corporations are now operating.

Provision is made in the charter for the initiative, referendum and recall, but voters desiring to sign recall petitions must go in person to one of the fire engine houses of the city for that purpose, as they are required to be kept on file at those places, and under no conditions may be "peddled."

Primary elections are eliminated by the Sandusky charter, which provides that any voter who so desires may become a candidate for city commissioner upon the filing of a nominating petition filed by voters equal in number to five per cent of the total vote at the last preceding election, and the acceptance of the nomination by the candidate in writing.

Candidates for city commissioner are prohibited from engaging in circulating their own nomination petitions, making any expenditures or promises of money, request-

ing votes for himself, or for any other candidate for city commissioner or any other office, offering employment or appointments, or otherwise solicit any one to support or vote for him. His campaigning is left entirely in the hands of his friends, by whom the public are enabled to judge him. This plan has been tried in Springfield and has so far been successful. A violation of the prohibitions imposed acts as a bar against the candidate taking office, if elected. Candidates may answer all inquiries put to them regarding their opinions upon public questions and are permitted to make verbal and written statements of such opinions.

At the election, at which it is possible for a large number of candidates to be voted upon, those receiving the highest number of votes, equal in number to the offices to be filled, are elected—provided they have not violated any of the prohibitory regulations of the charter.

The charter takes effect January 1, 1916, and the first city commission is to be elected in November, 1915. Sandusky is the fourth city of Ohio to vote upon a commission-manager charter, Ironton having rejected such a charter earlier in the present year. Advocates of the plan in the latter city are considering renewing the campaign in 1915, maintaining that the chief ground for the rejection of the charter submitted this year was the fact that if adopted it would have removed from office the city officials who had been elected for two-year terms, only a few months previously.

USING TECHNICAL JOURNALS*

Suggestions for Reading, and for Filing and Indexing Articles of Permanent Value—For the Young Engineer—For the Specialist.

Technical papers, along with the technical societies and their proceedings, form the repository of the professions. They are the interchange of experience, the common store upon which we all draw. Without them we would be strangely helpless. We are indebted to everyone more or less who records his experience for the common use, and that debt we should endeavor to helpfully repay in kind, but wisely, concisely and thoughtfully.

With the rapid increase in and specialization of technical knowledge, engineering literature also has had to specialize, divide and concentrate. The problem of the engineer today in relation to his reading is to sort out, discard and eliminate that which he cannot use, and limit himself to the inspection and reading of that which bears principally on his selected professional specialty.

That we cannot keep abreast of the times without reading the technical journals is obvious. That if we carefully read all the technical journals in our chosen specialties we would have no time left to earn a living is easily capable of demonstration. The problem confronting the engineer is how to obtain the greatest good from this ever-increasing flood of information. Some engineers confine themselves to one paper, others take all they can afford; some carefully bind and shelve their copies, still others read what they can and then throw them away. As a rule, however, the engineer prizes his technical paper and endeavors in some ill-defined and formless sort of fashion to preserve its information for future use. The problem affects each engineer differently, according to his age, station and aim in life. To the man whose aim is only to get money and more money, the technical journal is a newspaper in which he may notice mainly where there are better jobs than his own to be obtained. To the man who is anxious to fit himself every year for

*Abstract of paper by John W. Alvord, before the Federation of Trade Press Associations.

something better, there is an opportunity for a great variety of study. To the young engineer it is, if properly read and noted, a part of his postgraduate course in engineering; to the middle-aged man it is a mine of data bearing in all sorts of ways on his work.

It is safe to say that to the young engineer and college graduate, engineering literature will never have any proper prospective until he has been connected in some capacity with engineering work, be it ever so modest a capacity. With the actual doing of engineering work, however, should come co-temporaneously the reading of technical journals, particularly along the lines in which he is working. Nothing can be more instructive, broadening and enlightening to a man doing a particular kind of work than reading at the same time about similar work.

It follows therefore that the young engineer should, as early as possible, take at least one first-class engineering journal and own it himself; bind it if he can afford to, but in any event lay it away in an orderly manner. If one might advise, it would be to suggest enforced systematic reading of all articles particularly bearing on the line of work a reader is immediately engaged upon, and the optional reading only of such other articles as interest him. Some engineers are omnivorous readers by instinct, but it is to be doubted if laborious reading of all kinds of engineering articles all the time is advisable for anyone.

The matter of indexing is an especially difficult one for the young engineer to solve. It is probably not wise for him to indulge extensively in card indexes, filing systems and the like for topically arranging his valuable technical articles. Few men know very early in life where fate and interest will land their future attention, and filing systems and special indexes, which are expensive and time-consuming, when indulged in without definite aim nearly always quickly become too voluminous and thereby useless. If any suggestions are made along this line, it would be to start a loose-leaf notebook, letter size (8½ inches by 11 inches), and note in it (with separate pages for separate subjects) only what appears to be extremely useful, either in exceedingly brief abstracts from articles, or diagrams, costs, etc. These notes will be most useful if they are confined to that kind of work in which the compiler is immediately engaged, or at the most, work very similar to his own which has perhaps had his personal inspection.

The young engineer is tempted to read much about large enterprises—the Panama Canal, big bridges, astonishing tunnels, great dams, etc. This does no harm and probably holds his interest for the time being, but he gradually learns that, for him at least, the chief value of the technical journal does not lie in its dramatic side, necessary as that may be for our general information, interest and pleasure, but its chief value lies in a fund of small things which make up the routine work of the ordinary average job. These are to be watched for and noted, as practically useful to the average man.

For the man in early middle life, actively engaged in his profession, the problem with respect to the technical journal is the absence of time. There is much repetition in engineering writing and in the production of engineering papers, but each new generation needs the same drill in its reading as did its predecessors, and each year a vast number of engineers have arrived at that degree of maturity that they will be interested to read matter that constantly impresses them and seems to them new, but which in reality has already been largely well written long ago. The mature engineer will note that a large amount of technical literature is of the purely descriptive order, merely giving an outline of work that has been accomplished, without going into reasons or principles. Such reading is valuable and useful, but has its limitations. But this class of engineer will find a great deal of

material available to himself, and the question arises what he shall do with material which he selects as important to him.

Several courses are open to him: First, he may rely on his memory and the published index to his bound volumes. It is probable, however, that few engineers make practical use of this method. Second, he may keep a special card index of important data and reference to valuable articles. This involves labor and attention which few busy men can give and which, if done by assistants or librarians, largely loses its personal value to the one who needs it. There is an objection to volume indexes that the bother of the search is so discouraging that it is abandoned in about one-half the suggested attempts. It is probably safe to say that of all the contrivances for indexing, the most difficult to handle readily and examine rapidly is the card index system. Third, he may abstract important data in a limited way on loose-leaf transparent paper, standard letter size, and he may remove or detach articles of special value from out his journals, to be filed in regular office file systems like correspondence.

The writer has tried all of the above methods at considerable cost in time and patience, and has for many years settled upon the third method above outlined. With all its admitted limitations, it seems to be the best for an office which is expected to find out information on a great variety of subjects in a limited time and with the least amount of effort. Some descriptions of its practical workings may be of interest here:

All the technical papers of the office pass on to the desk of the head of the office and are at least looked over (not read) by him. Articles important to his particular specialty are checked with pencil, and articles of especial interest are looked over with care and double checked. Once in a long while data important enough to go to the data file are noted. This is especially abstracted by the stenographer, or, if a diagram or cost data, perhaps traced in the drafting room; all on transparent paper for copying purposes. Special data of this kind on 8½-inch by 11-inch sheets are filed in the office data file (a separate but common standard correspondence file). From the data file loose-leaf working notebooks are made up from blueprints for office or travel purposes. They are altered, refilled, amended and sorted back from time to time as needed to keep them of usable volume and usefully up to date.

The technical journals, with checked articles, go to the office clerk or the stenographer at odd hours, or the librarian if one can be afforded, and the useful articles are removed by tearing them out with a ruler. They are folded, usually once, to standard size, with one edge lap left for binding, and are then filed in a subject index file, like current correspondence. The Dewey decimal system, especially arranged for the office, is used, but only as a general subject plan. When the file is full, portions of its contents, especially that which is most useful, is simply bound in plain pasteboard covers and placed in the library shelves, with titles. Such a book (or many books) would contain all the recent articles thought to be of special value on a given single subject. The remaining portions of the technical paper is thrown away, but in a large office, warranting the expense, duplicate bound copies can be kept as well, with the general published index as their key.

The objections to this system are, that it is too expensive for any but the most important offices doing specialized work; that the data accumulate too fast unless rigidly kept down to a minimum, and that it requires some personal attention of the head of the office, a competent assistant or a regular librarian employed for the purpose. The advantages are that it compels the office

head to know all the time what is being published in current engineering literature, if only by inspection; that it removes all intervening indexes between the searcher and the final repository in bound volumes; that it keeps one's library usefully up to date on all lines in which he should be especially interested, and it is economical of final shelf room and cost.

Obviously, one should not start so elaborate a system as this unless he is fairly sure of the special line of engineering to which his life will be devoted. It is not to be recommended to the young man, but only to the mature man of early middle life when his work thoroughly indicates the necessity for it. It is, however, absolutely essential to the specialist. Not a few consulting engineers use this standardized system interchangeably, particularly the data file, thereby greatly increasing its usefulness to each other as a joint effort.

To the mature and experienced engineer of advancing years, the technical journal again becomes a technical newspaper of great personal interest and deep satisfaction. He is now chiefly interested in the human, personal and ethical side of the work, and he realizes that, though he may have seemed to others and even to himself to have been striving all these years for emolument, as a matter of fact, the deep and abiding motive of his life work has been the pleasures of being needed and the joy of being useful.

CINCINNATI COMFORT STATIONS

Details of Arrangement of Two Recently Completed— Music Pavilion and Comfort Station Combined.

By KENNETH C. CARDWELL.

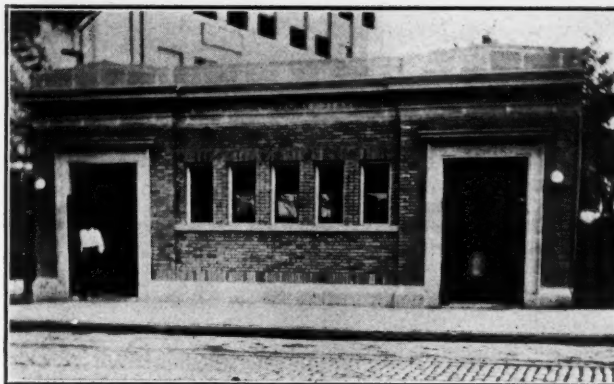
Cincinnati, O., some years ago installed fairly large and modern public toilets for both sexes under the east end of Fountain Square, in the heart of the city, surrounded by the business and shopping districts. For a long time this was about the only public comfort station in the city entitled to the name, but the recent opening of the Peebles' Corner public comfort station, at one of the suburban centers of business and population, marked the completion of the first of several contemplated additional stations, while another in Eden Park, which is being built in connection with a handsome music stand and will serve the park crowds as well as being convenient to the Art Museum, is now nearly completed.

Both of these, while modern and efficient in every respect, including plumbing, cost very moderate sums as compared with the amounts spent by even the smaller cities on matters much less important. The Peebles' Corner station, exclusive of the ground, cost only \$10,000, and the Eden Park structure, which, as stated, is to serve a double purpose, was contracted for at \$14,000.

Peebles' Corner is one of the busiest suburban intersections of the city, a dozen or so car lines passing it in various directions. The piece of ground here on which the public comfort station stands has a front of forty feet on McMillan avenue, about fifty feet west of the corner, and extends back forty-two feet to a width of thirty feet at the rear. The building is constructed of brick, with a foundation and floors of reinforced concrete.

The basement is devoted to the janitor's quarters and to the heating arrangements. The latter consist of a water heater for the purpose of supplying the lavatories with hot water, and a boiler with a capacity of 700 square feet of radiation at a maximum pressure of two pounds at the boiler, which will furnish steam for heating the building in cold weather to radiators located in the two large toilet rooms and in the women's retiring room.

The ground floor is divided into two sections, one for men and one for women, of approximately equal size.



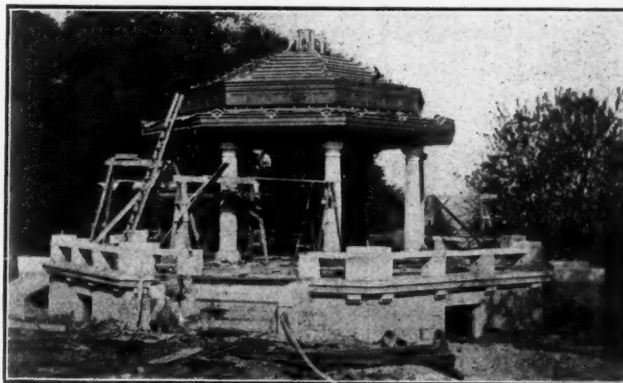
PEEBLES' CORNER PUBLIC COMFORT STATION.

There are separate entrance vestibules, which are wainscoted to a height of six feet with handsome gray Tennessee marble, which material is used in the toilet partitions also. The walls of the rooms are wainscoted with white vitrified glazed tiles three by six inches in size, with a two-inch sanitary (rounded) base of the same material. This, with the smooth cement finish of the concrete floors, makes an interior not only fireproof, but easily cleaned and kept clean, which of course is a consideration of prime importance in such a building.

The plumbing is of the first grade and well arranged from the standpoint of economical and efficient construction and action. Running approximately through the center of the building from the rear of the women's retiring room, which is in the front, is a double partition wall separating the two large toilet rooms, which encloses a space in which the pipes are located, and to which access can be had for any desired purpose from the janitor's service closet in the men's toilet. In this space there is also set an 18-inch fan, driven by a small motor, for ventilating purposes.

The toilet stalls on each side are built against this partition. There are four public closets on each side for free use, besides a private toilet for the use of which a small charge is made. These private toilets contain lavatories, thus affording complete privacy with every convenience, and they have proved very popular. Each room also contains a bubbling fountain, four lavatories and a slop sink, the men's section having three urinals as well. The lavatories were furnished by the Crane & Hawley Co., of Cincinnati, while the John Douglas Co. of Cincinnati supplied the closets and urinals. All are of the best modern design. The plumbing in the building cost about \$1,000, and the heating a little over \$600. William Miller & Son of Cincinnati were the general contractors, the plumbing and heating jobs being sublet to Cash & Williams and H. L. Bachler, respectively.

The women's retiring room, furnished with toilet conveniences and in charge of a competent maid, enables



EDEN PARK MUSIC PAVILION AND COMFORT STATION.

women waiting for cars to freshen and rest themselves after a long trip from the suburbs or a shopping excursion, before completing their journey. This, as well as the other facilities offered, have already been used by the public in considerable numbers, and it is certain that others will be constructed in other suburban centers.

The Eden Park station is housed in an unusually handsome building, of concrete with a stucco finish, trimmed with Bedford stone. The music pavilion part is above, while the comfort station is below, being in a large part below grade, as the building is constructed on a hillside, and some little excavation was necessary. This basement section contains toilets and lavatories for both sexes, with a corrugated concrete trough urinal for the men, a drinking fountain in each area entrance, slop sinks for the use of the janitor, and so forth. The toilets are reached from opposite sides of the building, broad concrete steps 4 ft. 6½ in. wide, with 14-inch treads, leading to them.

The pavilion is octagonal in shape, measuring 19 feet on a side and 46 feet across from side to side. This shape, which, while highly appropriate for a pavilion, is a little out of the ordinary for any other building, lent itself admirably to the arrangement of the comfort station part, as the floor plan shows. About half of the building, roughly, is devoted to the two toilets, each occupying one of the triangular corners of the basement, and each being 13 ft. 10 in. deep, excluding the toilets, by about 17 feet long. On the women's side a small waiting room, provided with seats, is entered from the area; the toilet is at the left, and an emergency room, intended for use in summer, when the crowds in the park furnish cases for the first-aid work, is on the right. On the men's side the corresponding space is given over to the urinal, the toilet, which is almost exactly the same size and shape as that on the other side, being to the right as one enters, while a large room, intended for storage and miscellaneous uses, is on the left, taking up the remainder of the basement. From this room, as well as from the men's

urinal, doors give entrance to a small room intended for use by the janitor and to a lighted passage between and to the rear of the two toilet rooms, in which space the closet tanks and the water pipes are located. There are five closets and two lavatories on each side.

Four windows in each of the toilet rooms give ample light, while electric lights are also provided for use at night and on dark days, current being furnished from the city lines. Ventilation is cleverly handled by means of pipes running up through each of the eight concrete columns, which are about 26 inches square in the basement, resting on footings 4 feet 2 inches square at the bottom, and in the pavilion proper are graceful octagonal shafts 7 feet in height and 18 inches in diameter at the bottom. The floors, both of basement and pavilion, are of concrete, that in the basement being laid on 6 inches of cinders.

The toilet rooms and the large storage room are provided with drainage under the concrete floor. Surface water around the building is taken care of by a line of four-inch drain tile placed around the outside walls and extending to a point where the water is absorbed in the ground. Inasmuch as little if any use of the station is anticipated in winter, no heating of any kind is provided, either for water or for the purpose of maintaining a warm temperature.

Eight lamp standards of cast iron, set on the pavilion railing and corresponding with the eight columns, provided with white globes and 32 candlepower lamps, will furnish light when necessary, and add much to the appearance of the structure, which, taken altogether, is very beautiful as well as practical. It was designed by George E. Kessler of St. Louis, landscape architect and engineer for the park commission.

TOWN MANAGER FOR NORWOOD, MASS.

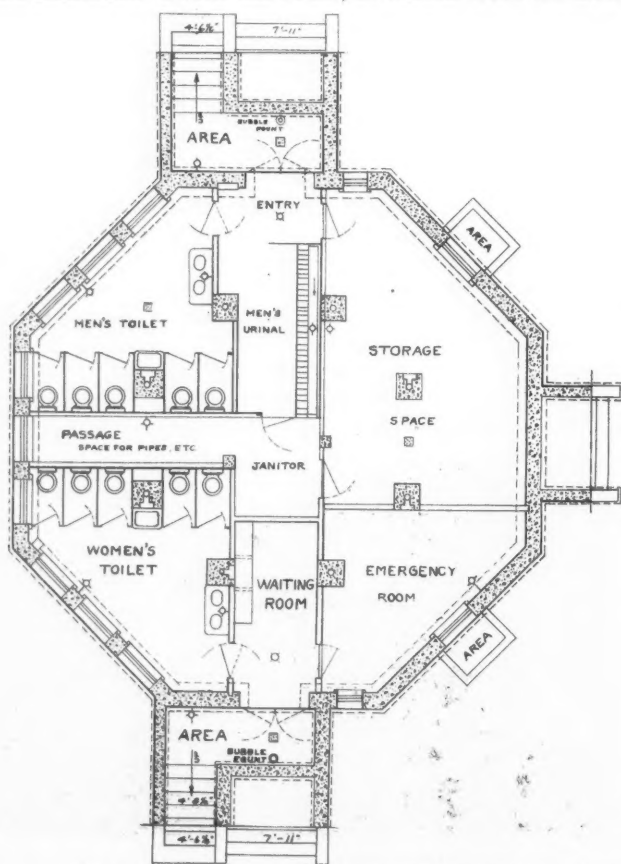
Norwood, Mass., has adopted the manager plan of government and is believed to be the first city in New England to do so. On October 13 she voted for this, 650 to 403. The new officials will be chosen on the third Monday in January.

Five selectmen will be elected, as will also three finance commissioners, the town treasurer and tax collector. A town manager will be appointed by the selectmen at a salary of \$2,500 to \$4,000. He will be responsible to them only, and they can remove him by a majority vote, but only after filing their reasons and giving him opportunity to reply. The finance commission will prepare the town budget and submit it to the selectmen. The recall is provided for, on petition of 200 voters and not less than three months after election.

The manager creates, organizes and controls such departments as he and the selectmen think necessary, including the police department, subject to the direction of the selectmen; appoints (upon merit and fitness alone) all chiefs and subordinates of these departments, and purchases supplies for all departments.

PRESIDIO GARBAGE INCINERATOR.

In a news item in our issue of September 10, a statement was made that the Nye garbage incinerator at Presidio, California, consumed "thirty-two tons of garbage every twenty-five hours with the use of a gallon of crude oil an hour as fuel", this statement being attributed to city engineer Gillam, of Coffeyville, Kansas. Mr. Gillam informs us that the reporter who prepared the news item confused his figures, his statement being that twenty-five tons was burned in thirty-two hours on a test, and that in actual service it was using about a gallon of crude oil an hour, but he had no record as to how much garbage was being burned with this consumption.



PLAN OF EDEN PARK COMFORT STATION.

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Subscribers are requested to notify us of changes of address, giving both old and new addresses.

Contributions suitable for this paper either in the form of special articles or of letters discussing municipal matters, are invited and paid for.

Subscribers desiring information concerning municipal matters are requested to call upon MUNICIPAL JOURNAL, which has unusual facilities for furnishing the same, and will do so gladly and without cost.

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Sworn to and subscribed before me this 23rd day of October, 1914. H. H. MINER, Notary Public (No. 2439). New York City.

[Seal.]
(My commission expires March 30, 1916.)

OCTOBER 29, 1914.

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Wood Block Without Sand Cushion.

A sand cushion serves two important purposes—it takes up the inequalities of both the foundation surface and the blocks which are laid upon it, and it serves to slightly cushion the jars of traffic on a pavement otherwise hard and rigid. It has other effects, some advantageous and some otherwise, but these are the principal ones.

A concrete surface can be made smooth by mortar and a little care, and this necessity for the cushion removed. Granite blocks, and even bricks, cannot be made all of exactly the same depth, however, and for them a cushion would seem necessary for the first purpose as well as for the second.

Wood blocks, being sawed and expanding but little with the grain, can be made uniform in depth; and, as

they are not rigid like the others named, there would seem to be little necessity in their case for using a sand cushion except to avoid care in smoothing off the top of the foundation. We therefore find a number of the more recent wood block pavements laid without a sand cushion, like the Newark pavement described on another page. There are undoubtedly arguments both for and against the practice other than those suggested above, which we will not attempt to discuss. However, we wish to refer to one in its favor.

A few months ago we saw an excellent stretch of wood block laid in a car track street, a sand cushion being used; and in three months about half the total length of the strips lying within a foot of each of the four rails was in about the worst condition imaginable. The track was laid with heavy rails on a fair foundation, but the car traffic was very heavy and there was a slight motion of the rails which, assisted no doubt by some water which entered between the rail head and the blocks, had "pumped" out the sand filler and allowed the blocks to settle. The flange space had been filled and the work was otherwise good, but the slight movement of the rails had been communicated to the blocks in contact with them, and at the same time made a space in the rail foundation to receive the sand worked out from under the blocks by this motion. Had there been no sand cushion, it does not seem probable that the rail motion could have produced such serious results. This seems to us to be a very good reason for omitting the cushion under wood blocks on streets occupied by car tracks.

Using Technical Journals.

The paper by a prominent consulting engineer who has made a reputation along the special lines of municipal work, which we have abstracted elsewhere, is one of the most helpful to engineers generally which we have read in a long time. It is an effort to tell them how they can best extract the greatest amount of benefit from the volume of current technical literature appearing in the technical periodicals.

They cannot read all, but they must read some, says the author, if they are to keep abreast of the times. How to use these to best advantage and what to keep permanent record of and how, is then discussed at length.

Perhaps no one realizes more than the head of the information department of a technical paper how desirable it is that such papers be permanently filed by those whose field of activity they serve. Probably not a week passes that this paper is not asked for information which has been published by it within a few weeks or months; and the inquirer is frequently—perhaps generally—an old subscriber who, by referring to files of his back numbers, could have learned in a few minutes what it required several days to find out by writing and waiting for a reply.

No professional man today can hope to have all the knowledge of his profession stored in his brain; but, on the other hand, he can not hope to be a success unless he can quickly refer to whatever part of it may be required by any problem which arises. The educated man in any branch is he who knows its fundamentals thoroughly and, in addition, knows just where he can secure complete and up-to-date information on any of its various minor subdivisions.

Municipal Journal endeavors to serve those engaged in municipal work by publishing what will assist them, by indexing this carefully at six-month intervals, and by preparing also a brief index of the principal articles on the subject in other periodicals. But our subscribers are losing a large part of the value of this if they do not preserve and consult the back numbers, or use a method of recording similar to that recommended in the article referred to,

MUNICIPAL TREE-PLANTING

By Special Assessment—Laws and Practices in Several States and Cities.

By ANDREW LINN BOSTWICK.*

The planting and care of street trees is receiving more and more attention by municipalities. Some cities have assumed complete control over this work, often through special commissions or departments. In such cases the power has generally been given the municipality to set out and care for trees at its own discretion, and assess part or all of the cost thereof against the property benefited. In some instances this is done under charter authority; in others, by virtue of a State law. A summary showing the trend of laws and practices along these lines is presented below.

New Jersey (particularly Newark).—The New Jersey law has been in force for some years, and various cities, Newark in particular, have accomplished a good deal under its provisions. That portion of the law with which we are interested is given herewith:

Sec. 3. Whenever said (shade tree) commissioners shall propose to make any such improvements as setting out or planting any shade trees, or changing the same in any highway, they shall give notice of such contemplated improvement (specify the streets or portions thereof where such trees are intended to be planted) in one or more of the newspapers of their said municipality, if there be any newspaper published in such place, for at least two weeks prior to any meeting in which they shall decide to make such improvement.

Sec. 4. The cost of planting and transplanting any trees in any highway, and boxes or guards for the protection thereof, when necessary, shall be borne by the real estate in front of which such trees are planted or set out, and the cost thereof as to each tract of real estate shall be certified by said commissioners to the person having charge of the collection of taxes for said municipality; and upon the filing of said certificate, the amount of the cost of such improvement shall be and become a lien upon said lands in front of which said trees were planted or set out, and the said collecting officer shall place the assessment so made against any property in the annual tax bills rendered to owner or owners of said property, and the same shall be collectible in the same manner as the other taxes against said property are collected.

Sec. 5. The cost and expense of caring for said trees, after being planted or set out, and the expense of publishing said notices, shall be borne and paid by a general tax to be raised by said municipality; said tax shall not exceed the sum of one-tenth of one mill on the dollar annually on all the taxable property of said municipality, and the needed amount shall be each year certified by said commissioners to the assessor or assessors of the said municipality, and be assessed and raised as other taxes. (N. J. P. L. 1893, p. 496.)

From the above it will be seen that in the case of New Jersey the special tax provision relates only to the planting and setting out of the trees, the cost of subsequent care being met by general tax.

In the city of Newark, notice is given two weeks before the meeting at which any improvement is to be decided on, and the work is ordered done if no valid objections are presented at the meeting. Lists are compiled of the lots and blocks which have been improved by means of trees, and these lists, with the cost of the work per tree, are certified by resolution to the Receiver of Taxes.

Newark has experienced little opposition to this law in recent years. The amounts involved are small, and moreover are less than the property owner would have to pay if he had similar work done himself. Objections raised at the outset, therefore, have about disappeared. Since 1904, in which year Newark availed herself of the advantages of this statute, 27,054 trees have been set out. In 1913 tree assessments amounted to \$8,007.47.

California.—A state law, approved June 11, 1913, provides for tree planting by assessment, and specifies at

length the exact procedure to be followed by the municipality in this connection. When it is contemplated to enter upon any work involving the care, planting or removal of street trees, the city council must adopt a resolution of intent, describing the proposed improvement. The resolution need not specify the kind of trees to be planted. If the work is to involve care of trees, the resolution must state the period of time over which this care is to extend, the maximum allowed being five years. The proposition must then be referred to the city engineer, or special tree commission or department if there is one, and the engineer or commission reports back to the council, the report presenting:

1. Plans and specifications, showing the kind of trees to be planted, general method of making the improvement, etc.
2. Estimate of cost.
3. Diagram of streets, alleys, etc., affected, with boundaries of abutting lots.
4. Proposed assessment of costs, at a rate per front foot sufficient to cover all expenses; each subdivision to be assessed in proportion to its frontage.

The council considers the report, modifies it if it so desires, and arranges for a hearing. Notices are published in the press and posted on the property affected. Objecting property owners may file written protest before the hearing, and if owners of a majority of the frontage so object, all proceedings are barred for six months, at the expiration of which time a new resolution of intent may be adopted. If the protests are not sufficient, the council may order the work done, by resolution. The corrected diagram showing the assessments is transmitted to the tax collector, who records the same, and proceeds to collect the amounts in the usual way. The funds collected are paid over to the city treasurer, who places them in a special fund, payments out of which must be for the purposes mentioned in this statute. To expedite improvements the council may authorize loans to this fund. The work cannot be commenced until at least a part of the funds therefor are in the hands of the city treasurer. The actual work is done by the municipality. Deficiencies may be met by appropriation or by supplementary assessment.

Pennsylvania.—The Pennsylvania law is very similar to that in force in New Jersey. (Acts 1907, No. 251).

Los Angeles.—Antedating the California law considered above, Los Angeles has a charter provision authorizing tree planting by assessment, as follows:

The Council shall have power, by ordinance, to provide for the planting, maintenance, or care of shade and ornamental trees in streets and other public places, and for the removal of unsightly and dead trees therefrom; and to make the cost thereof a lien and charge upon the abutting property, and to make provision for the enforcement of such lien. (Charter, Sec. 36a.)

Oakland, Cal., has a similar provision in its charter. (Sec. 51 (7)).

Seattle.—The city council has power to order the planting of shade trees upon the city streets, and may provide for defraying of the whole or any part of the cost by special assessment, in the same manner as is provided for street and other public improvements. (Charter, Sec. 18 (43)).

Kansas City, Mo.—It is specified that tree planting may be paid for by special tax, the procedure being to authorize the work by resolution of the Board of Public Works. (Charter, Art. 8, Secs. 1 and 3).

San Leandro, Cal.—This city has adopted an ordinance dealing comprehensively with the whole question of shade tree control by the municipality. A feature of the ordinance is a clause providing that the interested property holders, if they agree to the proposed improvements, must sign an agreement to pay their share of the cost thereof.

*Municipal Reference Librarian, St. Louis Public Library.

The WEEK'S NEWS

16,000 Miles of Good Roads for Chicago—New Bridges for Pasadena, Cal., and Baltimore, Md.—Typhoid in Topeka, Kans., Tower City, Pa., and South Bethlehem, Pa.—New Waterworks Improvements in Lebanon, Pa., and Westfield, N. J.—Successful Light Plants in Richmond, Ind., and Winnipeg, Man.—Cities Against Public Utilities—New Lighting for Pasadena, Cal., Spencer, S. D., and Sterling, Ill.—New York Police—Commission Victories—Garbage Handling in Dayton, O., and Calgary, Alta.

ROADS AND PAVEMENTS

Proposes 16,000 Miles of Good Roads.

Chicago, Ill.—A. D. Gash, head of the state highway commission, is preparing plans involving the expenditure of \$180,000,000 for permanent highways in Illinois. With this he hopes to build 16,000 miles within twenty years. When these permanent roads are completed he figures that no farm within the state will be more than four and a half miles from a modern highway. Two-thirds of the 34,000,000 acres, he believes, will be within two miles of such a thoroughfare. He has collected evidence to show that a farmer can haul nearly twice as much on a good concrete or brick road as he can on a dirt surface, and in addition make the trip to town and back in about half the time. Mr. Gash said that approximately \$160,000,000 of the amount must come from taxation. The other \$20,000,000 will be received from automobile licenses in twenty years. Illinois made a start on road construction this year. By the end of the month it will have 82 miles completed, 73 of concrete and 7 of brick.

S. E. Bradt, secretary of the commission, estimates that between 40 and 50 per cent of the \$7,000,000 spent annually on roads in Illinois is for temporary work "that has brought no lasting benefits." James P. Wilson, third member of the board, indorses in general the idea of Mr. Bradt. Mr. Wilson thinks by reducing the width of the roads to ten feet that \$140,000,000 would build all of the state aid roads.

City Fights County Road Tax.

Superior, Wis.—As the result of an investigation now under way by the city legal department the proposed \$100,000 levy for the construction of county highways may be held up when efforts are made to collect that amount from the city authorities. The legal department has practically concluded, as a result of its investigation up to date, that the levy for roads as it has been made by the county board in past years would not stand a test in the courts. While the city pays 84 per cent of the cost of the county roads, not one cent of the money raised for the county highway fund is expended within the city limits. The legal department holds that the city cannot properly be taxed for improvements wholly outside of the city, and from which the city itself derives no direct benefits. It is probable, however, that the city would agree to a compromise which would reduce the city's share of the burden of road taxes. Under existing laws it would be legal for the county board to assess one-third of the cost of road construction to the

owners of property adjoining the highways improved. These taxes can be spread over a period of years, making them easier to pay. By applying this law the county board could materially reduce the burden of the road tax on the city, and probably avoid litigation that would result in the city's escaping the tax entirely. The county board members argue that any improvement to the county roads is a great indirect benefit to the city because of the greater ease of communication.

Convicts for Road Repairs.

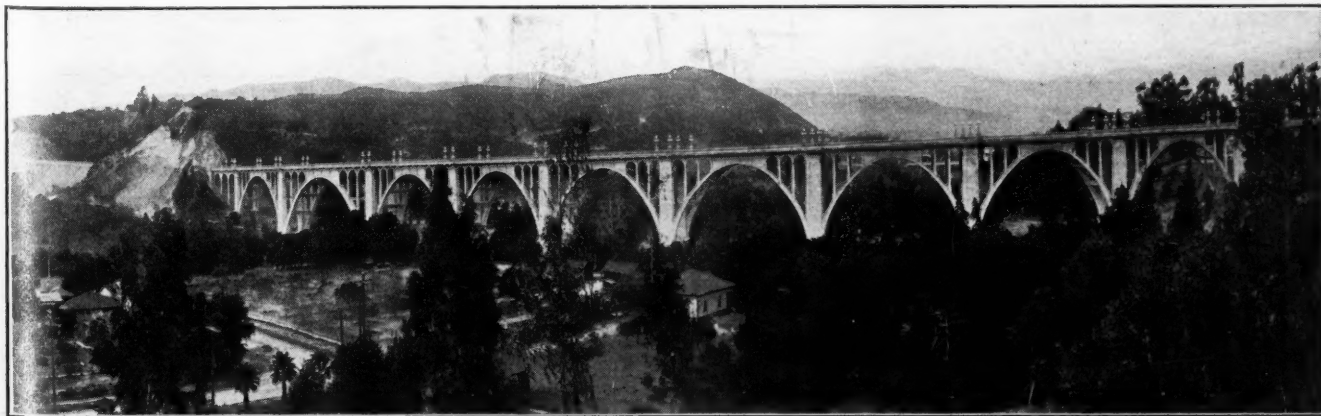
Walla Walla, Wash.—A new plan for the employment of convict labor on the public highways, whereby the roads would not only be built by prisoners, but would also be kept in repair by them after their construction, is suggested by Warden Henry Drum, of the Washington state penitentiary here.

Work on New Scenic Highway.

Seattle, Wash.—Two hundred and fifty men are clearing and grading from 18 to 20 miles of the new Cascade scenic highway, from Tye to the Snohomish county line, and men will be kept probably all winter on the 10-mile stretch from the Snohomish line to Skykomish. This represents the progress on the work of the great trunk highway that is destined to connect Puget Sound with Wenatchee, reported by County Engineer Arthur P. Denton.

Pasadena's Great Bridge.

Pasadena, Cal.—Linking the east and west banks of the Arroyo Seco and forming the final line of the boulevard from Pasadena to Los Angeles by way of Tropic, Glendale and Eagle Rock, the magnificent Colorado street bridge is completed and dedicated. This bridge is claimed by Pasadena to be the tallest, longest reinforced concrete bridge in the world and that there is no longer bridge which is so high or no higher bridge which is so long. The bridge is 1,476.5 feet long and from the waterway to the bridge floor the height is 148.5 feet. There are fifteen spans to the bridge, nine larger and six smaller ones. The greatest span is the ninth, which covers 230 feet. The bridge is 38 feet wide with sidewalks five feet wide on each side and is electrically lighted with ornamental clusters. The construction was begun in July 1912, and was completed at a cost of \$240,000, of which the county of Los Angeles paid \$100,000, \$13,000 was subscribed by citizens of San Rafael Heights, on the west bank of the Arroya and the city of Pasadena paid the rest.



Courtesy Pasadena (Cal.) Star.

GREAT CONCRETE BRIDGE OF PASADENA.

Begin Work on New Bridge.

Baltimore, Md.—Preliminary work has begun on the new bridge which is to link Anne Arundel County with the city of Baltimore. The old Light street structure is to be replaced by a new bridge at Hanover street. Machinery is now in place at both ends and dredging and driving have begun. The illustration shows work at one end of the bridge.

State Accepts Mountain Road.

Tacoma, Wash.—Deputy State Highways Commissioner Allen has accepted the strip of concrete highway 6.34 miles in length which is part of the Mountain road, built by the Washington Paving Co. under contract for the county and paid for out of the state permanent highway fund. The road, according to Mr. Thompson, cost \$10,000 a mile. It is 16 feet wide and 7 inches thick in the middle. The mixture used was 1:2:3½. The county has a 60-foot right of way through which the road passes. Engineer Thompson has allowed all the trees along the right of way to stand.

Urges Municipal Paving Plant.

Phoenix, Ariz.—In the report presented by City Manager W. A. Farish to the Citizens' Committee on Paving Monroe street, he points out that great saving could be made were a municipal paving plant installed. Manager Farish recently visited several California cities and made a careful study of their paving. He believes that Phoenix should do her own paving and that the installation of a plant at a cost of about \$20,000 would result in a saving generally of at least that amount in a very few months. The paving of the streets of the city could then be worked out under a more comprehensive system than that now employed. He figures that the city would require a repair outfit for patching bituminous pavements where opened for various purposes, which would cost about \$3,500. A portable plant, consisting of heating utensils, road roller and concrete mixer of sufficient capacity to lay concrete pavements or concrete bases for asphaltic wearing surfaces, would require an expenditure of \$10,000.

To Examine Highway Commissioners.

Superior, Wis.—A civil service examination for positions as highway commissioners will be held throughout Wisconsin this fall by the State Highway Commission. All present highway commissioners must pass this examination before they will be eligible to re-election by the county boards of their respective counties. Candidates for the positions must be able to read and write English, must have a good working knowledge of arithmetic, such as will enable them to make estimates, and must also have had actual experience in construction work such as the building of streets, roads, railroads, logging roads and other similar work. The points on which the examination will be graded are as follows:

Physical ability, industry, sobriety, 10; general education, 6; knowledge of mathematics and computations, 10; knowledge of state highway law, 4; business experience and ability, 10; personality and indications of leadership, 12; familiarity with county, 4; engineering and surveying, 8; experience in roadbuilding and work of allied nature, 20; experience in selecting and handling stone and gravel, 6; experience with heavy machinery, 4; culvert and bridge construction, 6.

Candidates for the examinations need not necessarily be residents of the county, or even of the state. The stand-

ings of candidates who pass the tests will be submitted to the county clerk. No candidate will be eligible who has a standing of less than 70 per cent. The county board elects the commissioner from the list of eligibles. The date of the examination has not yet been announced.

SEWERAGE AND SANITATION

Typhoid Epidemic.

Topeka, Kan.—An epidemic of typhoid fever following in the wake of the army of 40,000 harvest hands, is reported by the Kansas board of health. Within the last ten days 160 cases of the disease have been reported and additional cases are being reported daily. The outbreak occurred in the wheat section of Kansas, which is usually free from the disease. An epidemic of diphtheria since school began is also reported—in ten days numbering 103 cases. The state is providing free antitoxin.

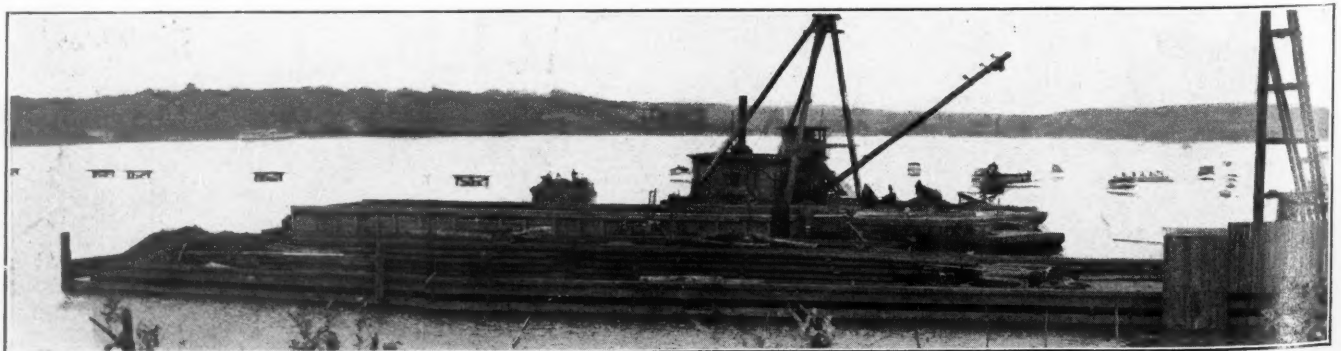
Typhoid Decreasing in Baltimore.

Baltimore, Md.—With a total of only 334 cases of typhoid for this year during July, August and September—the typhoid season in Baltimore—the health authorities have announced that this city had at last reduced the dreaded fever scourge which four years ago actually had 981 cases. Last year the cases of typhoid numbered 695, or a 100 per cent greater number than this year's low record. Speaking of the results shown by the statistics, Dr. C. Hampson Jones, assistant commissioner of health, said that the record shows the great effect produced by treating Baltimore's drinking water supply. Next year, he said, with the additional supply of water and the operation of the filter or scrubbing plant, this city should undoubtedly succeed in obtaining still lower figures as regards typhoid fever.

River Pollution Investigated.

Trenton, N. J.—The problem of preventing the pollution of the Elizabeth River through the overflowing of the joint sewer used by Summit, Millburn, West Orange, South Orange, Irvington and parts of Newark, is being investigated by the State Board of Health. The municipalities, represented by Adrian Riker and various officials, objected to any order being made by the state board at this time which would compel the installation of separate systems to carry off surface water, or the enlargement of the trunk sewer. Mr. Riker said that none of the municipalities using the joint sewer had reached the limit to which it was entitled under the contract as regarding house sewage. The only excess, which caused the municipal sewers to overflow in times of freshets, Mr. Riker said, was due to the sudden influx of surface water which overtaxed the sewer.

In view of the fact that the river is not used for drinking water and that it is subject to pollution from other sources, Mr. Riker insisted that the jurisdiction of the board must rest solely upon the question of whether the discharge of surface water into the stream constitutes a public nuisance. In answer to his own proposition Mr. Riker contended that the occasional overflow of water, which if polluted at all, is but slightly so, did not constitute a nuisance. He submitted that under the legislation now in force the municipalities are without authority to take any action, even if they desire to do so.



Courtesy Baltimore (Md.) News.

BEGINNING ON BALTIMORE BRIDGE.

Typhoid Epidemic in Tower City, Pa.

Tower City, Pa.—Typhoid fever is at present epidemic at Tower City, there being 34 serious cases. The State Board of Health is making an investigation, and the two reservoirs are being cleaned out. An entire family has been stricken and brought to the Pottsville Hospital.

Lay Concrete Pipe Sewers.

Muscatine, Ia.—Concrete pipe manufactured by Zeidler Concrete Co., of Muscatine, only will be used in the sewerage improvements to be made in Muscatine this fall. It was decided at a special meeting of the council to use concrete in the extensions in sub-sewerage districts 27, 28 and 29. The Keeler Co., of Davenport, was awarded the contract for this work. The work will be commenced as soon as dry weather comes.

Typhoid in Lehigh University.

South Bethlehem, Pa.—Within two days nearly a score of mild cases of typhoid fever have been discovered among students at Lehigh University. Ten of these patients are being cared for at the hospital, while the others have gone home. So far there is slight fear that the malady will develop into an epidemic. The State Health Department, at the request of Lehigh University authorities, sent Dr. J. C. Hunt here to investigate the origin of the fever. The water has been tested and found good, and also has the milk supply.

Campaign Against Malaria in Virginia.

Richmond, Va.—To locate malaria-carrying mosquitoes and to show how the destruction of this pest prevents the spread of malaria, the State Board of Health and officers of the United States Public Health Service have undertaken a campaign in infected counties of Virginia. Drs. R. H. von Ezdorf and R. C. Derivaux, of the United States Public Health Service, have been detailed for temporary work with the Virginia officers. Both are well-known authorities on malaria prevention and have done much practical work in the South. The board's plan is to take a few typical communities in which malaria has been spreading and to demonstrate in these, by practical field work, what steps are necessary to keep the disease from spreading. The health officers begin their campaign in a given locality by making a thorough survey to demonstrate the presence and breeding places of the anopheles mosquito which carries the parasite of malaria. Efforts are then made to enlist the support of local authorities in definite clean-up campaigns, filling, draining and oiling—by which mosquitoes can be destroyed. Reports thus far received indicate a lively public interest in the counties where the work is being done.

WATER SUPPLY

New 3,000,000-Gallon Pumping Engine Installed.

Lebanon, Pa.—Work on the installation of the new 3,000,000-gallon pumping engine at the Lebanon Valley Water Supply Company's station has been completed. The big engine weighs 95 tons and is a compound pumping engine. The installation of the new engine gives the Lebanon Valley Company a daily capacity of 6,000,000 gallons of water which can be pumped into the Sand Hill reservoir, situated about one mile north of the city, from whence it can be distributed to all sections of the Lebanon Valley. In addition to the new engine an air compression plant and a modern style of electric filtration plant to take the place of the present chemical purifying plant have been installed. The new engine was constructed by the National Transit Co., at its Oil City, Pa., plant. Another feature of the improvements being made is that the company will dredge two-thirds of the coal it uses for the pumping engines from the bed of the Swatara Creek, from where the water is pumped. This will reduce the cost of operation to a minimum. The coal is being continually washed down the stream from the anthracite mining regions and can be gathered continuously. Only the new engine is now in operation to supply the present consumers of the company, although the two lesser engines will be used off and on in order to always keep them in condition for instant use.

City to Buy Water Works.

Warren, O.—The city council has taken the initial step toward the municipal ownership of the water works system, now owned by the Trumbull Public Service Company. This question was up five years ago, but the negotiations then were not favorable to the city. Council has now passed a resolution which will inform the company that it proposes to act under one of the franchise proceedings.

Water Company Refunds Overcharge.

Pittsburgh, Pa.—The Pennsylvania Water Company, of Wilkesburg, Pa., has notified the Common Pleas Court that it has complied with an order of court that the company repay to its customers, for every 100 cubic feet of water billed to each customer after January 1, 1911, a sum equal to the difference between the rates promulgated and the rate charged by the defendant company. The company paid out \$86,258.25 in refunds to customers.

Investigating Hackensack Water Company.

Jersey City, N. J.—Preliminary investigation of the rates and practices of the Hackensack Water Company has been begun before the Public Utility Commissioners. Frank H. Sommer, counsel to the commissioners, called upon the company to submit a report showing the complete valuation of the company's assets, copies of its contracts with all municipalities and answers to several dozen questions respecting the reasonableness of its rates, the quality of the water, the efficiency of the service and the adequacy of the supply.

New Reservoir Completed.

Westfield, N. J.—The new concrete underground reservoir of the Plainfield Union Water Co., in Fanwood, is completed and now in service. The reservoir is entirely enclosed. It is 300 feet long, 200 feet wide and 20 feet deep. Its location is as high as the company standpipe at Netherwood, which is 260 feet above sea level. The reservoir will hold nearly 10,000,000 gallons of water and will boost up the pressure in the mains of the company throughout its system. In order to make the water flow to this large basin freely, the standpipe at Netherwood is to be built several feet higher.

STREET LIGHTING AND POWER

Richmond, Ind., Light Plant Successful.

Richmond, Ind.—The gross earnings of the Richmond municipal lighting and power plant have now exceeded \$100,000, the first time in any one year in the plant's history that such a record has been made. Controller McMahan and Superintendent Kleinknecht estimated that the close of the year the gross earnings of the plant would be close to \$125,000, which will be an increase of \$31,000 over last year. The expenses of the plant have been exceptionally heavy this year, and there has also been a reduction in both lighting and power rates. This has been made up to some extent, however, by the city, which has paid for street lighting for the first time in several years. Up to the present there has been an increase of seven hundred to the list of patrons of the plant, and now it has practically all the large consumers in Richmond. Controller McMahan expects a net profit of \$15,000.

Hydroelectric to Increase Capital.

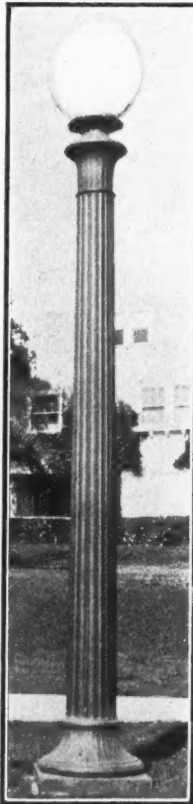
Toronto, Ont.—The Toronto Hydroelectric Commission proposes to increase its capital by another \$2,000,000. The money is required to increase the capacity of the system and for extensions of the lighting of the streets and parks of the city, the main items being: Extensions of street and park lighting, \$24,628; increasing the supply of power for operation of civic car lines, \$34,713; increasing capacity of the system, \$1,260,985. The previous issues of debentures, amounting to \$5,650,000, have been sold, and the proceeds used on construction and bringing the system up to its present standard. It is estimated that the proposed new issue will be self-sustaining, as it is expected to produce a revenue of \$469,927, of which \$9,927 will be paid by the city for extra street and park lighting. After all charges have been met a surplus of \$9,400 is anticipated.

Municipal Plant Very Successful.

Winnipeg, Man.—Winnipeg has just celebrated the third anniversary of its municipal lighting and power plant, which, it is claimed, provides the cheapest light and power in the world to householders—3 cents a kilowatt. The profits this year were \$60,000 on an investment of nearly \$7,000,000, and this against a strong private company capitalized at \$12,000,000 and which has been in the field twenty years. The Winnipeg municipal plant has 35,000 customers, an increase of 5,000 this year. The receipts this year were \$1,038,000. The city is increasing the power house capacity from 25,000 to 50,000 horsepower and is building a second transmission line into the city from Point Du Bois on the Winnipeg River, the center of the power development, which is 73 miles northeast of Winnipeg.

City Loses in Gas Rate Case.

Omaha, Neb.—The people of Omaha must continue to pay \$1.25 a thousand cubic feet for their gas until 1918, less a reduction of 10 cents a thousand cubic feet if paid within ten days after the bill is rendered. A permanent injunction was issued by T. C. Munger, United States district judge, forbidding the city to enforce the ordinance passed in 1908 reducing the price of gas to \$1 a thousand cubic feet. The case will be appealed to the supreme court by the city legal department. The contract entered into in 1893 by the mayor and council, without submission to the people, empowering the company to charge \$1.25 a thousand cubic feet for gas was declared valid and binding for twenty-five years, or until 1918. Attorneys for the city argued that this contract was obtained by fraud and that the mayor and council at the time had no power to make such a contract. Judge Munger based his decision almost wholly on the fact that the city did not question the validity of the contract for fifteen years and that because the city accepted the contract for that length of time it is now barred from questioning its validity. The ability of the company to furnish gas for \$1 a thousand cubic feet was not submitted to the court, the company deciding to fight the case on the sole ground that the contract gave them the right to charge \$1.25 a thousand cubic feet for gas, regardless of how cheaply it could be furnished. After the city had secured an expert, who made a physical valuation of the plant the company abandoned its contention that gas could not be furnished for less than at present.



Courtesy Pasadena (Cal.) Star.
NEW POSTS.

New Lighting Posts for Pasadena.

Pasadena, Cal.—The Oak Knoll section has been beautified with new bronze lighting posts, which are illustrated here. The design is simple, yet striking. The posts were made by the Union Metal Manufacturing Company, of Canton, Ohio. The moonstone globes are the product of the Jefferson Glass Company, of Follansbee, W. Va.

City Wins Lighting Suit.

Ft. Wayne, Ind.—The city of Ft. Wayne won an important legal victory in the circuit court, when Judge John W. Eggeman found for the city in the suits filed by Frank P. Wilt and other property owners to restrain the city from collecting for ornamental lighting on several streets. About \$40,000 was involved. Property owners contended that the assessments were excessive. Judge Eggeman, in his finding, ruled that the city had a right to assess for the ornamental posts, but for no other part of the expense. He held, also, that since the plaintiffs had not appealed against the assessment by remonstrance within the prescribed ten-day limit, fixed by law, they had

forfeited their rights in court to restrain collection by injunction.

New Lighting System Completed.

Spencer, S. D.—Spencer can now lay claim to as good a lighting system as any other South Dakota city of like size. The \$10,000 electric light plant is completed and in operation. A storage battery will furnish the power during the day. Twenty-four-hour service will be furnished. The main street is lighted with six 60-candlepower electrolier clusters to the block.

Valuation of Plants Sold to Cities.

Madison, Wis.—The railroad commission fixed the valuation of the Grand Rapids Light and Power Company, to be purchased by the city of Grand Rapids, at \$72,000. The question of purchasing the electric plant was voted upon some two years ago by the city, but there have been many delays in making the valuation owing to legal complications. The company was a co-operative concern. The city voted to purchase its properties by an overwhelming vote. To date eighteen private plants have been purchased by Wisconsin cities for use as municipally owned enterprises. At present the commission is valuing the Racine Water Company's plant, which is the largest to be purchased.

Boulevard Lighting Completed.

Sterling, Ill.—The new boulevard lighting system in the business district has been completed and the lights formally lit by Mayor A. J. Platt. The lighting is the result of the efforts of the local commercial club, which about a year ago secured a fund of more than \$2,700, which they turned over to the city. The expense was assessed against the property owners as a public benefit. It is claimed to be one of the very first systems in the country to be financed in this way. The city selected what is called the nitrogen-filled mazda lamp, the very latest system of boulevard lighting, Sterling having one of the first installations in the country. The maintenance of the system is to be paid for by the city, the city getting power rates on current at a trifle more than three cents per kilowatt hour.

FIRE AND POLICE

New York Police Improve.

New York, N. Y.—Police Commissioner Woods has sent Mayor Mitchel a report dealing with the work of his department for the three months ended Sept. 30. It shows a decrease in crime and an increase in the number of arrests. There were 54,420 arrests, as compared with 40,957 for the corresponding period in 1913. This year 39,534 convictions were obtained, as against 29,336 last year. Property worth \$480,493 was lost and \$249,623 worth was recovered. In the same months last year \$822,662 worth of property was reported lost and \$441,722 worth recovered. The report shows that 1,228 persons were reported missing and 759 missing persons found, while in the corresponding period in 1913 1,103 were reported missing and 847 found. The Commissioner called the Mayor's attention to the pension fund. In 1902 it was self-supporting, but since then an appropriation of \$1,450,000 was obtained to meet the deficiency. The Commissioner said this was brought about by the large increase in retirements of patrolmen, who, he believed, should have stayed on the force. He said there were now at headquarters schools for lieutenants, sergeants and members of the traffic squads.

Short Firemen Now.

Boston, Mass.—Serious question has arisen over the effect of a new ordinance passed by the city council committee on ordinances which eliminates the height requirement from the regulations for admission to the fire department. The councillors voted with the idea that if the five-foot-seven provision were done away with and the fire commissioner given discretionary power, no firemen could be taken into the department who were under five feet five inches in height. The councillors had before them a statute of 1896, chapter 424, which reads as follows:

Section 1. Persons five feet five inches in height, and over, shall be eligible to appointment on the fire force of the city of Boston, if otherwise qualified, and no rules shall be made by the Civil Service Commissioners in conflict with the provisions of this section.

But this law has been superseded by two other statutes,

one passed in 1904 and the other in 1911, according to views being expressed by lawyers. The 1904 law, chapter 194, reads as follows:

No regulations concerning the height or weight of persons who shall be eligible to become members of the fire department in any city or town shall be made or enforced except by the City Council of such city, by the Selectmen of such town, or by the board or officer having authority to make appointments in the fire department.

The 1911 law gave the city council of cities and the selectmen of towns the exclusive right to make regulations. The view taken at the office of the Civil Service Commission is that the 1896 statute is not in force and therefore in the absence of regulations by the city council, men of any height will be available to certification. This makes the victory of the short men desiring to become members of the department of far-reaching significance.

Mayor Curley will sign the amended ordinance when it reaches him. Only two large cities, New Orleans and Philadelphia, have a height minimum of less than five feet seven inches, and only two have weight requirements less than 140.

Severe Test for Apparatus.

Lynn, Mass.—The fire apparatus of Lynn has been put to a severe test, much severer than an actual fire would be, the officials claim, by the National Board of Fire Underwriters. The tests lasted two days. With the exception of a few minor accidents the apparatus, the fire officials feel, the test showed the kit in excellent condition. The illustration shows Engine 2 in action pumping water from Flax Pond and discharging it back.



Courtesy, Lynn (Mass.) Daily Evening Item.
ENGINE IN ACTION AT TEST.

Business Blocks Burn.

Norwich, N. Y.—Norwich is recovering from the shock of a disastrous fire in the business section. The total loss of property will be over \$100,000 on which there is approximately \$80,000 insurance. An employee of the Norwich Gas and Electric Company was nearly electrocuted while standing on the roof of a shop cutting a primary wire carrying 2,300 volts and receiving a shock.

GOVERNMENT AND FINANCE

First Levy Under Single Tax.

Pueblo, Colo.—The first city tax levy under the single tax amendment to the charter has been completed. It is designed to raise a total of \$273,000 for general city purposes for the coming year, which is practically the amount used by the various city departments during 1914. If the \$3,500,000 increase on the valuation of property ordered by the state tax commission is adopted the city rate will be reduced proportionately keeping the amount to be raised at the present figure. The proportionment of the money for the different departments has not been made. A detailed list of the valuations placed upon the franchises and rights of way of the local public utility corporations was not furnished the city by Assessor McCoun. Instead he gave the total as \$1,669,970. Under the single tax amendment to the city charter vacant lots must be assessed at their full value, rights of way and franchises must be assessed

at full value, while this year, improvements to property are to be assessed for but 50 per cent of their value. The amendment also provides that personal property may not be assessed in excess of one mill. The new levy follows:

General city purposes.....	15.00 mills
Bond interest	1.3 mills
Paving .....	.06 mills
Sewers, sidewalks and weeds.....	.09 mills
Cost of paving around P. O.....	.15 mills

Total16.6 mills

The total valuation of the property in the city is given at \$19,191,942. That figure shows a 40.3 per cent decrease in valuation while the ordinance shows an increase of 39.78 per cent in the levy, thus furnishing the city with about the same sum that was raised a year ago. The figures submitted by Assessor McCoun show the following division of the valuations in the city of Pueblo:

Lots	\$10,940,977
Improvements	13,161,990
Franchises	1,669,970

Recall Election Fails.

Denver, Colo.—The first attempt to recall a city official since the recall law went into effect in Denver several years ago has failed. Alexander Nisbet, commissioner of public safety, whose recall was sought on the charge that he had been lax in law enforcement, was re-elected. His plurality over his nearest competitor on first, second and third choice votes, was 6,830.

Commission Wins.

Murfreesboro, Tenn.—In a special city election held here the proposition of establishing a commission government for Murfreesboro under the general commission government act of 1913 was adopted by a vote of 386 to 34. Considerable enthusiasm has been manifested over the result of the election, preceding which an energetic campaign was conducted by the advocates of the commission plan.

Another Victory for Commission.

Belleville, N. J.—The voters of Belleville have adopted a commission form of government by a vote of 716 to 567. This is the twenty-fifth municipality in New Jersey to take up that form of government. Until a short time ago little interest was being taken in the movement. When the Citizens' League conducted open-air meetings the other side went to work to enlist support, and the result was that much interest was aroused in all parts of the town.

City Without Appointed Officials.

Williamsburg, Ky.—Williamsburg now occupies a novel position, being without a police, clerk, street foreman or any officer that is chosen by the city council. For many months the board which was elected at the last November election has refused to get together. A part of the board headed by the mayor and three councilmen met and the mayor declared the other councilmen's places vacant by reason of their not meeting with them and elected three councilmen to take their place and with the mayor's council made selections for city officers. The other members resorted to court and were awarded their places.

To Revise Commission Bill.

Harrisburg, Pa.—Changes in the Clark Act, under which cities of the third class in Pennsylvania are being operated, were suggested at the meeting of a special committee of city solicitors, Mayor Royal, Mayor Stern, of Erie, Mayor Ward, of Chester, and Mayor Stratton, of Reading. It is probable that the League of Third Class Cities will be called into special session to discuss a plan devised whereby the recommendations may be placed before the Legislature. An attempt was made by several delegates to favor the adoption of the city manager plan, to place the mayors in full and undivided authority over the police department, civil service and other features. These propositions were voted down. Under the recommendations made

the superintendent of finance is to make his annual report in December instead of in January; the city solicitors and city engineers will be elected for terms of four years with a compensation to be fixed by council. Other recommendations were of minor character. Mayor Stern advocated civil service and suggested that the mayor, school superintendent and health officer be the board of examiners. The committee declined to recommend that the fiscal year begin January 1 instead of April 1.

New Assessing Method.

Pittsburgh, Pa.—Under the new law just enacted by the Pittsburgh council the city will be enabled to fix the property assessments more promptly than ever before and much property that heretofore has escaped the notice of the assessors will be put upon the tax duplicate. Hereafter in issuing a building permit the Board of Assessors will be given the name of the owner of the lot upon which the proposed building, alteration or extension is to be made. The certificate will be issued by the assessors and presented with the regular application at the Building Permits Bureau, where, after all other requirements are complied with, the permit will be issued.

Codify Borough Laws.

Harrisburg, Pa.—Supplementing the codification of the state's taxation laws, which was issued during August, the legislative reference bureau now has issued a similar codification of all general laws affecting boroughs. No codification of borough laws has been made since the general borough statute was enacted more than half a century ago. The last legislature directed the legislative reference bureau to prepare codes of all classes of laws and to present such as may be ready to the legislature of 1915. Three will be presented next January—the taxation code, the borough code and the corporation code. These codifications have been prepared under the supervision of James McKirdy, assistant director of the legislative reference bureau. The code establishes no new laws, being merely a systematic, logical and convenient arrangement of existing statutes on the subject.

STREET CLEANING AND REFUSE DISPOSAL

Saving in Electric Refuse Handling.

Calgary, Alberta.—By the introduction of labor-saving machinery and more up-to-date methods and without decreasing the general efficiency, the sanitary department of Calgary has saved \$100,000 this year. Electric tractors and trailers handle refuse to the incinerators where the equivalent of twenty-eight one-horse loads is discharged in

New Garbage Reduction Plant.

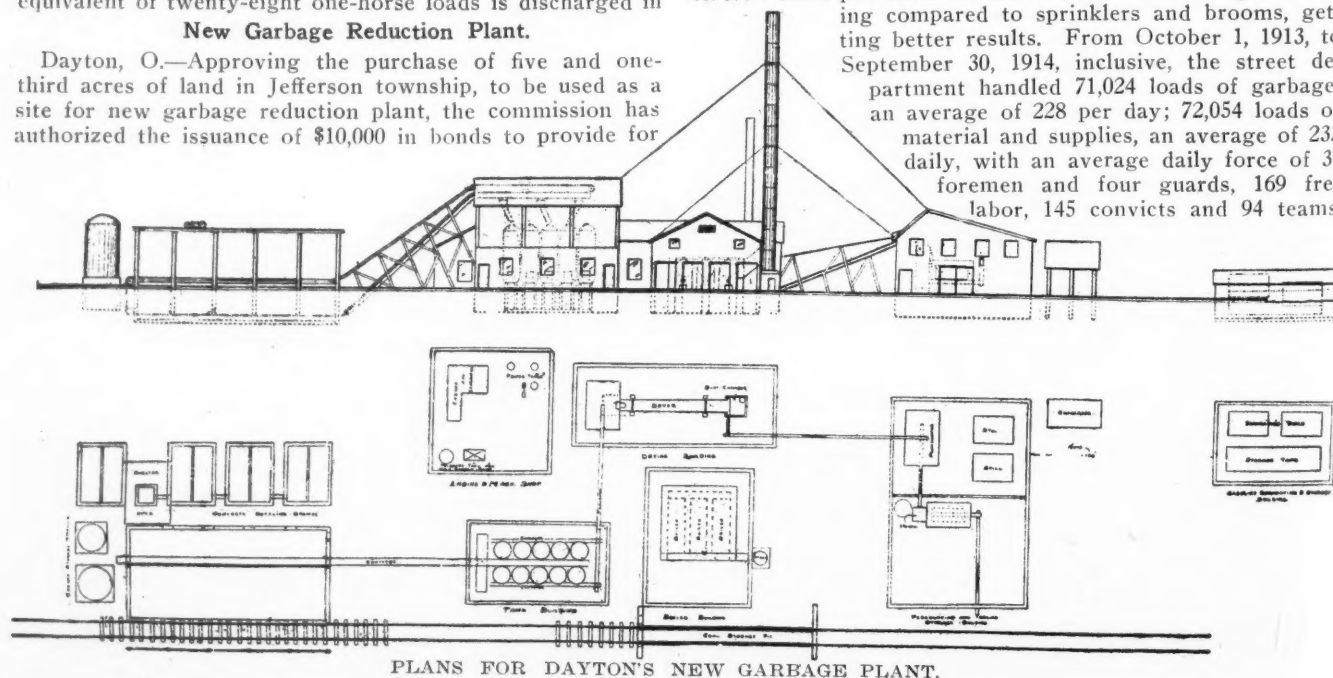
Dayton, O.—Approving the purchase of five and one-third acres of land in Jefferson township, to be used as a site for new garbage reduction plant, the commission has authorized the issuance of \$10,000 in bonds to provide for

the construction of the five buildings which will comprise the plant. City officials estimate the total cost of the new reduction plant will be \$50,000, but the additional \$40,000 bond issue, to take care of equipment, will not be authorized until the buildings are completed and are in readiness for installation of machinery. The property upon which the plant is to be located was purchased by Stephen E. Wilson, Cincinnati, expert on garbage reduction, acting for the city, for \$1,066, or \$200 per acre. The plant is designed to accommodate 50 tons of garbage per day, operated on an eight-hour shift, but if necessary, a double shift may be established and the capacity of the plant increased to 100 tons, sufficient to take care of the requirements of the city for many years to come. During heavy periods, the approximate maximum garbage collection during the past several years has been 40 tons per day. The reduction plant will be self-sustaining, as the revenue derived from sale of the grease and tankage will be sufficient to take care of operating expenses. Cost of collection of the garbage will have to be borne by the city, this being an item of expense which is considered outside the actual reduction plant expenses.

Stephen E. Wilson will superintend the construction of the plant, which will be guaranteed sanitary and operated under an approved method free of disagreeable odors. The process of reduction provides for removal of the garbage in the original metal boxes used for collection, on flat cars to the plant, where it is dumped into a green pit and afterwards conveyed to tanks or digestors. Cooking, separation of grease, discharge of solids, drying, storing, etc., are accomplished automatically. In the accompanying illustrations the plans for the five buildings which are to comprise the plant are shown. The garbage, after being hauled from the city on flat cars, is dumped into green garbage pits, then conveyed on an incline into the tanks or digestors, located at the extreme end. The reduction operation takes in the various tanks, percolator, dryer building, etc., as illustrated in the drawing. The upper picture shows the constructed plant, elevation, and the lower the floor plans.

Good Work of New Flusher.

Birmingham, Ala.—Street Commissioner Gafford has submitted his annual report for the fiscal year to the city commissioners. The new street flusher, which was purchased during the summer, is highly praised by Mr. Gafford, and he recommends that another be bought as soon as possible. The street flusher is now washing about 100 blocks per day, having gone over 13,103 blocks since put in service on April 6, 1914, using in doing so 16,547,750 gallons of water at 6 cents per 100, making \$992.87, or a cost of .075774 cents per block for water cost. This is a great saving compared to sprinklers and brooms, getting better results. From October 1, 1913, to September 30, 1914, inclusive, the street department handled 71,024 loads of garbage, an average of 228 per day; 72,054 loads of material and supplies, an average of 232 daily, with an average daily force of 37 foremen and four guards, 169 free labor, 145 convicts and 94 teams.



LEGAL NEWS

A Summary and Notes of Recent Decisions— Rulings of Interest to Municipalities

Police Officers—Appointments—Compensation.

Baker et al. v. City of Nashua.—Where police commissioners of the city of Nashua, acting in good faith, appointed certain persons as police officers and they performed all the duties of the office, they were officers de jure and entitled to compensation.—Supreme Court of New Hampshire, 91 A. R. 872.

Depositaries—Selection by Cities.

Stephens v. City of Ludlow.—Where the city council selects the depository and directs the treasurer to keep its funds in the institution selected by it, the city, and not the treasurer, assumes responsibility for the integrity and solvency of the institution so selected.—Court of Appeals of Kentucky, 169 S. W. R. 473.

State Boundaries—Stream Rights.

Board of Health of New Jersey v. Inhabitants of Town of Phillipsburg.—Though the title to the bed of the Delaware river above tide water is in the private riparian owners, subject to the paramount public right of user, the control of the river to the middle of the stream on the New Jersey side is in the state, and it has full power to prevent the pollution of the water by sewage discharged into it from municipal corporations in New Jersey.—Court of Chancery of New Jersey, 91 A. R. 901.

Erection of Viaduct—Evidence of Enhanced Value.

City of Atlanta v. Nelson.—In an action to recover damages to abutting property on account of the erection of a viaduct, the trial of which occurs several years after its completion, where one of the facts relied on to demonstrate an enhanced value of the property is the increased travel on the street by the property since the improvement, the testimony should be so restricted as to time as to afford a reasonable inference that the increase of travel is due to the public improvement, and not to other causes, such as the growth of the city, the shifting of business or population centres, and the like.—Supreme Court of Georgia, 82 S. E. R. 899.

Construction of Public Improvements—Damages—Evidence.

Heiber v. City of Spokane.—Where, in an action against a city for damages to a building from the operation of an engine and machinery in the construction of a public improvement, the evidence failed to show what portion of the damage resulted from the city's negligence and what portion was necessarily incident to the doing of the work free from negligence, the court properly took the case from the jury and decided for defendant at the close of plaintiff's evidence.—Supreme Court of Washington, 142 N. R., 1171.

License Ordinances—Validity.

Pennington v. City of Sparta.—A municipal ordinance, among other special license taxes, imposed "upon every life or accident insurance company" a tax of \$10. Proof that an agent of some company not disclosed in the record failed to pay the tax prescribed by the foregoing provision or requirement of the ordinance did not authorize his conviction under an ordinance penalizing the failure or refusal to pay the municipal license tax, when it was undisputed that the defendant was not an insurance company. Municipal ordinances, being quasi criminal in their nature, are to be liberally construed in favor of those accused thereunder, and an agent cannot be convicted, even as an accessory, for the failure of his principal to pay a municipal tax levied only on the company.—Court of Appeals of Georgia, 82 S. E. R., 826.

Moot Questions—Mandamus.

Wood, Mayor, v. Morrisett.—Where, in an action of mandamus to compel the mayor of the city of Edmond, M. E. Wood, to sign certain warrants, a judgment is rendered in

the district court against the said M. E. Wood as such mayor, and he appeals to this court, but before final submission he retires from office and his successor is elected and qualified and assumes the duties of such office, and no request is made to have the successor substituted, the only matters presented for determination by this court are abstract and hypothetical questions and disconnected from the granting of actual relief, and therefore will not be decided by this court.—Supreme Court of Oklahoma, 142 P. R. 1101.

Recall of Officers—Requisite Number of Signers.

Mills v. Nickens.—A petition for the recall of a councilman of the city of Tacoma did not contain the number of signers required by Const. Art. 1, Sects. 33, 34, providing that petitions to recall an officer of a city of the first class shall be signed by 25 per cent of the qualified electors thereof, computed from the total number of votes cast for candidates for his office to which he was elected at the preceding election, where it was signed by less than such per cent, estimated on the basis of the votes cast at the next preceding election at which councilmen were elected for such city, though it was signed by more than 25 per cent, taking as a basis the number of votes cast at a prior election at which he was elected; the words "at the preceding election," as used in such statute, meaning at the next preceding election held for the election of councilmen, whether that election be one at which the councilman sought to be recalled was elected or a subsequent election.—Supreme Court of Washington, 142 P. R., 1145.

Municipal Corporations—Building Regulations—Validity.

Russell v. City of Fargo.—Paragraphs 46 and 47 of section 2678, R. C. 1905, which section prescribes the powers of city councils, empower such councils to prescribe the thickness, strength, and manner of constructing stone, brick, and other buildings, and to provide for the inspection of all buildings, and authorize the city council to prescribe the limits within which wooden buildings shall not be erected or placed or repaired without permission, and to direct that all or any buildings within said limits, which shall be known as the fire limits, when the same shall have been damaged by fire, decay, or otherwise to the extent of 50 per cent. of the value, shall be torn down or removed, and to prescribe the manner or ascertaining such damage, and by ordinance provide for issuing building permits and appointment of building inspectors; and paragraph 57 of the same section empowers the city council to declare what shall be a nuisance and abate the same, and impose fines upon persons who may create, continue, or suffer nuisances to exist. In an attempt to exercise the power thus granted, the city council of Fargo enacted ordinances prescribing the fire limits and containing very lengthy and detailed regulations regarding the construction of buildings in said city, and especially within such limits. It makes the city engineer inspector of buildings, and requires a permit before the erection, construction, or material alteration or repair of any building in the city, and the submission of a statement regarding the dimensions, etc., together with full specifications and plans, to the building inspector, makes it unlawful for any one to proceed to construct or materially alter any building without such permit, and makes the alteration in or addition to any building already erected except necessary repairs not affecting the construction of the external walls, roofs, chimneys, or sidewalks, subject to the regulations of the ordinance. Section 57 of such ordinance makes it unlawful to repair any frame building within the fire limits, when it has been damaged by the elements or decay to the extent of 50 per cent. exclusive of the foundation, and provides a method for determining the extent of the depreciation. A fee of from \$1 to \$7 is required to be paid for the issuance of a building permit, the amount of the fee depending on the cost of the building or improvements. Held, that such provisions are not so unreasonable that this court can say they are invalid for the purposes for which they are intended and to which they are applicable.—Supreme Court of North Carolina, 148 N. W. R. 611.

NEWS OF THE SOCIETIES

Calendar of Meetings.

Oct. 28-31.
NORTHWESTERN ROAD CONGRESS.—Annual Convention, Milwaukee, Wis. Secretary, J. P. Keenan, Milwaukee.

Nov. 9-10.
VIRGINIA LEAGUE OF MUNICIPALITIES.—Annual Convention, Norfolk, Va. Col. W. H. Sargeant, Jr., President.

Nov. 9-13.
FOURTH AMERICAN ROAD CONGRESS.—American Highway Assoc. and American Automobile Assoc., Atlanta, Ga. Secretary, J. S. Pennybacker, Colorado Building, Washington, D. C.

Nov. 10-11.
LEAGUE OF TEXAS MUNICIPALITIES.—Annual Meeting, Houston, Tex. President, Mayor A. P. Wooldridge, Austin.

Nov. 12-14.
CONFERENCE OF AMERICAN MAYORS.—Bellevue-Stratford Hotel, Philadelphia, Pa.

Nov. 16 and 17.
MONTANA MUNICIPALITIES.—Third Annual Meeting held at Billings, Mont. Robert Leavens, Mayor of Billings.

Nov. 17-21.
NATIONAL MUNICIPAL LEAGUE.—Annual Convention, Baltimore, Md. Secretary, Clinton Rogers Woodruff, North American Building, Philadelphia, Pa.

Nov. 18-20.
WASHINGTON STATE GOOD ROADS ASSOCIATION.—Spokane, Wash. Secretary, M. D. Lechey, Alaska Building, Seattle, Wash.

Nov. 23-28.
EXHIBITION OF STREET CLEANING APPLIANCES.—Department of Street Cleaning, City of New York. J. T. Fetherston, Commissioner of Street Cleaning.

Nov. 30-Dec. 6.
AMERICAN PUBLIC HEALTH ASSOCIATION.—Forty-second Annual Convention, Jacksonville, Fla. Dr. C. E. Terry, Chm., Executive Committee.

Dec. 1-4.
AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—Municipal Day, Dec. 3, Report of Snow Removal Conference Committee—Annual Meeting, Engineering Societies Building, 29 West 30th street, New York. M. L. Cooke, Director Public Service, Philadelphia, Pa.

Dec. 2, 3, 4.
CITY MANAGERS' CONVENTION.—Springfield, Ohio. C. E. Ashburner, City Mgr., Springfield.

Dec. 14-18.
AMERICAN ROAD BUILDERS' ASSOCIATION.—11th Annual Convention; 5th Annual Good Roads Congress, and 6th Annual Exhibition of Machinery and Materials, International Amphitheatre, Chicago, Ill. Secretary, E. L. Powers, 150 Nassau st., New York, N. Y.

Feb. 10-17, 1915.
EIGHTH CHICAGO CEMENT SHOW.—Columbian, Chicago, Ill. Cement Products Exhibition Co., J. P. Beck, General Manager, 208 S. La Salle Street, Chicago, Ill.

May 10-14, 1915.
AMERICAN WATERWORKS ASSOCIATION.—Annual Convention Cincinnati, O. Secretary, J. M. Diven, 47 State street, Troy, N. Y.

June 14-16, 1915.
SOUTHWESTERN WATERWORKS ASSOCIATION.—Annual Convention, Galveston, Tex. Secretary, F. L. Fulkerson, Waco, Tex.

INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS.

The annual convention of the International Association of Fire Engineers was held at the Hotel Grunewald, New Orleans, La., Oct. 20-23. Had it not been for the war, a number of chiefs from foreign cities would have swelled the attendance, which was a record one.

The convention was opened a few minutes after noon, Tuesday, by President Haney, chief of the fire department of Jacksonville, Fla., who delivered a brief opening address. Mayor Behrman, of New Orleans, welcomed the delegates to New Orleans. Other speakers included Chief C. W. Reieger, of Minneapolis, Chief S. S. Boyd, of Knoxville, Tenn., Chief Louis Pujol, of New Orleans, H. W. Newman, commissioner of public safety, and John Fitzpatrick. Before adjournment the

following committees were announced:

Committee on Exhibits—Samuel S. Boyd, chief, Knoxville, Tenn.; Alfred Davis, chief, Bayonne, N. J.; James Armstrong, chief, Kingston, Ontario; Thos. M. Robinson, M. M., Washington, D. C.; John J. Conway, superintendent salvage corps, Cincinnati, O.; John J. McNarrey, chief, Kansas City, Kan., and John Espey, chief, Elmira, N. Y.

Committee on State Vice-Presidents—W. E. Bidiker, chief, Fort Worth, Tex.; R. F. McLaughlin, chief, Norfolk, Va.; W. A. Jessie, chief, Lexington, Ky.; James Smart, chief, Calgary, Alberta; Benj. F. King, chief, Jackson, Mich.; Peter Denger, chief, Davenport, Ia.; and Chas. S. Hafor, chief, Little Rock, Ark.

Committee on Memorial Resolutions—C. H. Henderson, chief, Bradford, Pa.; James Cummins, chief, Jackson, Miss.; J. E. Casey, chief, Muncie, Ind.; H. C. Bunker, chief, Cincinnati, O.; W. W. Bridgeford, chief, Albany, N. Y., and James Ross, chief, New Rochelle, N. Y.

Committee on Courtesies—E. F. Saunders, chief, Lowell, Mass.; Geo. W. McDormon, chief, Athens, Ga.; J. Q. Hawk, chief, Moline, Ill.; John Lacy, chief, Ishpeming, Mich.; Alfred Davis, chief, Bayonne, N. J.; John C. Egner, chief, Kansas City, Mo., and A. B. Ten Eyck, chief, Hamilton, Ontario.

Committee on Credentials—Chris. O'Brien, chief, Shreveport, La.; Harry W. Parker, chief, Stamford, Conn.; Louis Behrens, chief, Charleston, S. C.; Wilfred Grant, chief, Gary, Ind.; W. M. Mathews, chief, Tampa, Fla.; J. H. Gernand, chief, Galveston, Tex., and Timothy Lehan, chief, Louisville, Ky.

A paper on "Fire Prevention," by Chief Magie, of Dallas, was the feature of the afternoon session. Following it was discussion by Chief Kenlon, of New York, George Knofflock, of Mansfield, O., Chief Moser, of Warren, O., and Capt. Conway, of the Cincinnati Salvage Corps. "Practical first aids to injured" were not only discussed by George H. Howes, but were demonstrated in an effective manner by a picked crew from the New Orleans fire department.

The program of the second day was made up entirely of sightseeing events and entertainment features and the visitors saw tests of apparatus and devices for fighting fire. These tests were made under the supervision of the National Board of Underwriters and the machines worked for six hours. The tests were made at the New Basin Canal. At the head of the Basin was placed a Robinson combination fire engine and hose motor car, with a capacity of 900 gallons a minute, manufactured by the Robinson Company of St. Louis. A close neighbor was the Seagrave Company's new model combination auto pumping engine and hose cart, with a 1,000-gallon capacity, manufac-

tured in Columbus, O. The American-La France Company, of Elmira, N. Y., had two of its latest fire-fighting machines. The first was a motor pumping engine and hose cart, 700-gallon capacity, and the second was a triple combination pumping, hose and chemical automobile, with a capacity of 1,000 gallons. The first test for the engines was three hours at 120-pound pressure, the second test, an hour and a half at 200 pounds pressure, and the third test, an hour and a half at 250 pounds pressure. Readings were taken every five minutes, and Chief Pujol had spare engine No. 22 working on the basin, supplying steam for the signal blast announcing the time to take the readings. There were twenty-five of Chief Pujol's men on the scene helping out generally, and 3,500 feet of hose, belonging to the local department, figured in the tests.

One of the spectacular shows of the day was given by the National Safety Device Co., of Cleveland, when a smoke helmet was tested.

Other exhibits on the ground were several big vehicles of the C. J. Cross Tractor Company. The vehicles are used as attachments to fire engines drawn by horses. The Davis Sewing Machine Company also gave an exhibition of what a motorcycle chemical fire apparatus could do.

Business sessions were resumed on Thursday. A proposed change in the constitution and by-laws laid over from the convention last year at New York, required several hours' discussion. The program also called for the presentation and discussion of several papers.

Among the most interesting of the papers read and discussed were: "Volunteer Fire Departments—Their Organization, Equipment and Maintenance," by Walter Price, secretary Illinois State Firemen's Association, Champaign, Ill.; "What Are the Best Methods to be Used by a Fire Chief Who Also Is Superintendent of the Fire Alarm," by H. C. Bunday, chief of Waukegan, N. Y.; "Water Sprinklers, Their Efficiency and Their Advantage," by Chief C. W. Ringer, of Minneapolis, and Chief I. D. Weeks, of Providence, R. I.; "The Protection of Water Fronts, and the Efficiency and Necessity of Fireboats," by Chief T. A. Clancey, of Milwaukee; "Has the Gasoline Pump Engine Come to Stay?" by Chief E. F. Cahill, of New Bedford, Mass.

Later in the day, the convention witnessed the parade of the New Orleans fire department and in the evening all attended a theater party. It was during the afternoon that the dedication of the central fire station took place.

At the meeting on Friday Cincinnati was chosen at the next convention city. Los Angeles and San Francisco were other candidates for the choice.

According to the system followed in the association, it is a case of progression with the officers and accordingly Hugo R. Delfs, of Lansing, Michigan, former vice-president, succeeded Mr. Haney as president. Other officers included H. L. Marston, Brockton, Mass., first vice-president; Thomas Clancey, of

Milwaukee, second vice-president; George Knofflock, Mansfield, O., treasurer; Mr. McFall, of Roanoke, Va., secretary.

Exhibits shown at Washington Artillery Hall included:

The Gamewell Fire Alarm Telegraph Co., New York, fire alarms.

The Star Electric Co., Newark, N. J., formerly Binghamton, N. Y., fire alarms.

The Oxweld Acetylene Co., steel cutting device.

The Draeger Co., Pittsburgh, Pa., pulmotors.

The Seagrave Co., Columbus, Ohio, motor-driven fire apparatus.

The American-La France Co., Elmira, N. Y., motor-driven fire apparatus.

The National Safety Device Co., Cleveland, O., helmet and coat for firemen.

The Grether Fire Equipment Co., Dayton, O., hand searchlights, life-saving nets, oxygen helmets.

The S. F. Bowser Co., Fort Wayne, Ind., tanks for inflammable oils.

The Peerless Co., hose clamps.

The National District Telegraph Co., fire alarm devices.

FOURTH AMERICAN ROAD CONGRESS.

The governors of thirty-five states have named delegates to attend the Fourth American Road Congress, which will be held at Atlanta, Ga., during the week of November 9. According to advices from Atlanta, delegations have been named for most of the states and preparations are being made for an unprecedented attendance.

The problems of city street construction and maintenance will this year receive exceptional attention as the construction of high-class roads now approximates the methods adopted for street paving. Among the prominent city engineers who will discuss this subject are Charles E. Bolling, city engineer of Richmond, Va.; F. L. Ford, city engineer of New Haven, Conn.; L. D. Smoot, city engineer of Jacksonville, Fla.; John Weatherly, street commissioner of Birmingham, Ala., and G. S. Brown, city engineer of Charleston, W. Va.

Many difficulties have arisen in connection with contract work in the construction of bridges and highways and it is expected that the Congress will devote much attention to ways and means of improving the methods and conditions under which contract work is being done. The opening paper at the special session will be presented by John J. Ryan, secretary of the New York State Road Builders' Association.

Colleges and universities will take an active part in a session to be devoted to ways and means of furthering and improving the courses of instruction in highway engineering at educational institutions. Dr. Hector J. Hughes, professor of civil engineering at Harvard University; Prof. E. J. McCausland, dean of engineering of the University of Missouri; Prof. C. M.

Strahan, dean of engineering, University of Georgia, and Dr. E. P. Matheson, president of the Georgia School of Technology, will be prominent figures in the technical discussion.

American Institute of Electrical Engineers.

The Schenectady section of the American Institute of Electrical Engineers opened its ninth season Oct. 7 at the Edison Club lecture hall, Francis C. Pratt, assistant to the president of the General Electric Company, and John Bellamy Taylor, a consulting engineer of New York, being the speakers on the occasion.

Chairman H. M. Hobart presided and introduced the speakers. Mr. Pratt, giving the opening address, spoke briefly on the history of the Schenectady section, of its growth from a small beginning to its present large proportions, and adding said, despite the adverse conditions in industrial centers it is nevertheless within the possibility for the members of the section to make the coming season one of further growth and success. Mr. Pratt gave a brief description of the working of the commercial organization of the company and referred more intimately to the engineering and manufacturing activities.

Mr. Taylor followed Mr. Pratt with an illustrated demonstration lecture on "Color of Light." Mr. Taylor demonstrated with interesting experiments that light radiations may result in manifestations of light sensation, chemical activity and mechanical work. The fundamental similarities and differences between mechanical, audible and visible vibrations were explained at some length. Among the striking exhibits were a lamp of special construction and a number of beautiful color photographs which were thrown on the screen. Color photography made by Lumiere, Paget, Ives and other processes were shown.

There were about 250 members present at the meeting and a considerable number of local members were added.

(Continued on page 26)

PERSONALS

Ferebee, J. L., has been retained as engineer for Atlantic City, N. J. He was former assistant to Engineer Chalkley T. Hatton.

Hatton, Herbert W., Member A. S. C. E., sanitary and hydraulic engineer, 708-9 Equitable Building, Wilmington, Del., announces that he has been selected to design and supervise the construction of a system of sewers and a sewage disposal plant in Downingtown, Pa., and Royersford, Pa., which are to cost \$100,000 each, and has just completed surveys for a small ship canal between Cambridge Harbor, Md., and the Little Black Water River, which will cost about \$60,000.

Holmquist, Fred N., formerly city engineer of Phoenix, Ariz., has opened offices in the Noll Building, Phoenix, to engage in general consulting practice.

Kremers, Robert E., has been appointed chief of the Bureau of High-

ways and Bridges of the City of Portland under Philip H. Dater, city engineer. Mr. Kremers is a graduate of the engineering department of the University of Michigan, class of 1900.

Monahan, Thomas A., Jr., has been appointed superintendent of streets in Fitchburg, Mass., succeeding Michael J. Hogan.

Pendler, Dr. Harold, has been appointed head of the electrical engineering department of the University of Pennsylvania. Dr. Pendler was formerly professor of electrical engineering of the Massachusetts Institute of Technology.

Shank, L. D., has been elected superintendent of the electric and water plants at Geneva, N. Y. He succeeds Edgar B. Ward, who resigned to become manager of the new municipal electric plant at Easton.

Thompson, John A., county road engineer of McCracken County, Ky., has been reappointed for the coming two-year term.

The Mass. Inst. of Technology has appointed Messrs. T. Coleman duPont, of Wilmington, Del., Clarence D. Pollock, of New York City, and Prof. Hector J. Hughes, of the institute, to represent it at the Fourth American Road Congress in Atlanta, Ga., November 9 to 14. This is in line with the policy of that institution in strengthening its courses in highway engineering.

Vance, William H., has resigned as a member of the Board of Public Utility Commissioners, of the city of Wilmington, Del. A successor has not been appointed.

Woodbury, Dr. J. McGraw, former Commissioner of Street Cleaning of New York City, under Mayors Low and McClellan, from Jan. 1, 1902, to Oct. 13, 1906, died on Sept. 25, at his summer home at Southampton, L. I. Dr. Woodbury was born in New York City in 1855 and graduated from Princeton University in 1879. In 1906 he resigned as Commissioner of Streets and was connected with the General Electric Company.

The following new officials have been elected in Alabama:

Attalla—Dr. J. P. Stewart, mayor; A. C. Malone, S. W. Guest, J. R. Brown, C. S. Cooper and J. G. Dunn, board of aldermen; S. Glenn, city clerk; Fred Cox, city treasurer; L. P. Johnson, street overseer; C. L. Burke, chief of police.

Floral—Thos. S. Lanz, mayor; J. J. Bell, R. G. Hoover, J. T. Hughes, A. E. Mann and J. E. Turner, city council.

Oakman—D. F. Cronnover, mayor; L. C. Swindle, T. McCollum, R. C. Bush, L. Lelievre, L. A. Posey, aldermen.

Anniston—Mayor J. L. Wickle, re-elected; other candidates unopposed.

Bay Minette—W. D. Stapleton, mayor; A. B. Bryars, W. J. Hall, H. H. Nixon, A. M. Thompson and H. R. Kirby, council.

Guin—Paul E. Caudle, mayor.

Haleyville—R. L. Banton, commissioner.

(Continued on page 643.)

NEW APPLIANCES

"PACKARD" PORTABLE CONCRETE MIXER.

The "Packard" hand and power mixer has a capacity of 5 cubic feet of loose material and mixes on the remix principle, working the batch 60 times a minute. The hand power mixer has a capacity of 2½ feet per batch with one man mixing and 4½ feet per batch with two. The power mixer is equipped with a special Packard 2½ h. p. mixer engine with a 4½ by 6 inch cylinder, gasoline carried in base. The ignition is simple make-and-break and the engine is equipped with a large cooling hopper and fly ball governor. The drum and the buckets on the hoppers are made of No. 12 steel boiler plate and the outlet is mounted on 4-inch steel channel frame with 1½-inch steel axles. The wheels run in standard wagon tracks and are 22 by 14 inches, with 3-inch tires. The housing is all steel and may be locked.

In loading, no side loader is required, the low-loading feature and the measuring hopper obviating the necessity. The low wheelbarrow hopper is only 30 inches from the ground and the low measuring hopper 42 inches. The mixer discharges directly into the wheelbarrow or forms or chutes without jacking up, so that re-shoveling is saved. The batch hopper can be loaded while the drum is mixing, making practically a continuous operation. Extras, such as a 15-gallon automatic measuring tank, a rotary pump, measuring batch hopper and hinged low loading platform, may be obtained. The Packard hoist attachment or hoisting drum, for hoisting 400 pounds 350 feet

at 90 feet per minute, is also offered. The weight on trucks without power is 1,100 pounds and complete with engine and housing about 1,750 pounds.

The "Packard" mixer, which, complete with power housing and measuring batch hopper, is illustrated here, is made by the Contractors' Machinery Co., Keokuk, Ia.

THE "LITTLE DEVIL" CONCRETE MIXER.

A small concrete mixer with all the qualities of a big one is the claim made for the "Little Devil" mixer, which has a capacity of 5 cubic feet of loose material and 3½ cubic feet of mixed concrete. It has a low charging platform—only 17 inches from the ground—and may be obtained mounted on either two wheels or four. The drum is made of heavy boiler plate calculated to stand long wear. The few blades are arranged to give a good mix and to discharge rapidly and cleanly. The frame is made of steel channels, cross braced and securely riveted, with the corners reinforced with gusset plates and the whole mounted on wide-tired steel wheels. The track is a rolled steel channel section designed to act as track and guide for the rollers and to reinforce the drum. The rollers are of chilled semi-steel fitted with roller bearings. Caps are fitted on both sides of the hub, making bearings dust proof.

The engine used on the "Little Devil" mixer is a 3½ h. p., "New-Way" air-cooled engine—very simple in operation and with the fuel storage in the base. The drive is a cut steel gear

drive direct from the engine shaft on which is the pinion that drives the mixer, two of the supporting roller bearing drum rollers, hoisting drum and engine clutch. The bearings are either heavily babbitted or roller bearings. The segment gear is calculated to prevent delays, all segments being duplicates and easily replaceable. The hoisting drum is controlled, on the main shaft, by a powerful friction clutch. It is designed to handle a batch of mixed concrete at a time. A jaw clutch engages the driving pinions and allows the engine to run before the mixer is started. The engine is enclosed in a protecting steel housing.

The "Little Devil" mixer is made by the Chicago Builders' Specialties Co., 450 Old Colony Bldg., Chicago, Ill.

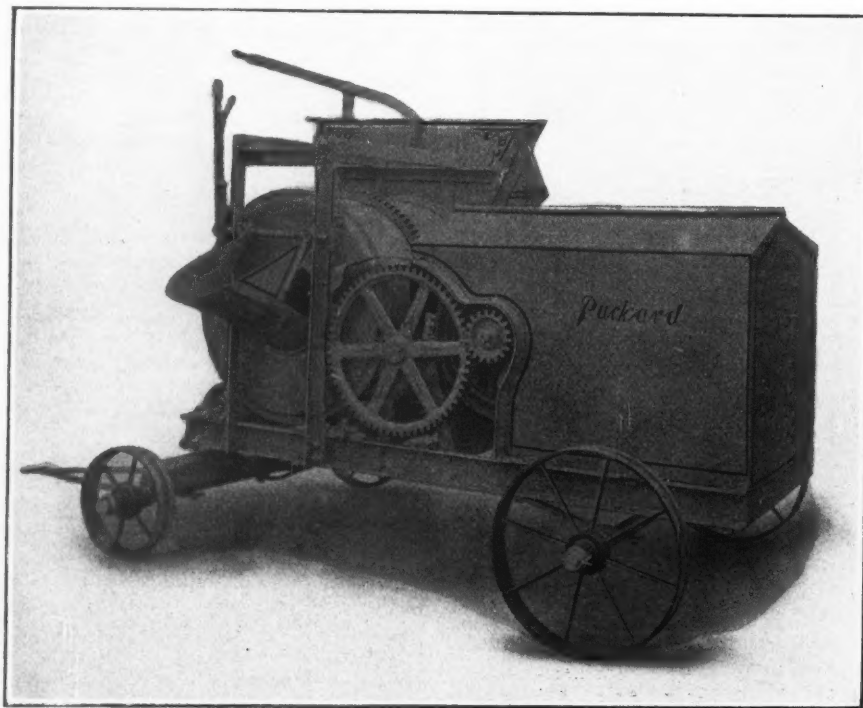
INDUSTRIAL NEWS

Cast-Iron Pipe.—Birmingham.—Municipal orders have been secured here; 2,000 tons have been placed from Texas and an 8,000-ton order is to be awarded from Mississippi. New York.—Contract secured here for 2,123 tons by Lyons, N. Y. Quotations: 6-inch, \$20 to \$20.50. Chicago.—Bids for 150 tons are to be received by Findlay, O. Quotations: 4-inch, \$26; 6 to 12-inch, \$24; 16-inch and up, \$23.50.

Lead.—Quotations: New York, \$3.50; St. Louis, \$3.35.

The Electrical Exposition and Motor Show of 1914.

The exposition, as in the past, covered fairly thoroughly the general range of the application of electricity, including, of municipal interest, lighting, electrical vehicles, power machinery and station appliances, water purification and valve operation. A feature during the whole period of the show, October 7-17, was a demonstration of the possibilities of the modern electric vehicle, both of the pleasure car and motor truck types under the auspices of the New York Electric Vehicle Association. A series of mileage tests were run on the board track, which is laid out each year on the third gallery of the Grand Central Palace, for the purpose of showing electric vehicles in action during the show. One of the tests was for the greatest mileage on a single charge of the battery—open to all types. The present record is said to be 244.7 miles, made on the streets of Cleveland, Ohio, in 1911. The road record is 176 miles, made recently in a run from Boston to New York. A second test provided for a continuous day and night run throughout the ten days of the show. This was accomplished by having two batteries, to be used alternately, or by giving one battery the required number of short "boosts." This test was for commercial vehicles. As yet there



"PACKARD" CONCRETE MIXER.

is no record for a test of this nature, and the one established during the show is certain to attract wide attention. In addition, the association offered two cups for road runs to be held during the show, one for pleasure cars and one for motor trucks.

Among the exhibits of municipal interest were those of:

Bell Electric Motor Co., Garwood, N. J.—Compensated type of polyphase transformers; repulsion induction-principle single-phase motors.

Cooper-Hewitt Electric Co., Hoboken, N. J.—Mercury vapor and quartz lamps; "Taylor" high candle-power incandescent lamps of 1,500, 3,000 and 6,000 watts; new Cooper-Hewitt diffusing method with ruled globes, illustrated with tungstens, to eliminate use of shades and reflectors.

Consolidated Telegraph and Electrical Subway Co., 54 Lafayette St., New York City, models of subterranean construction, showing development; use of tile conduit and fibre conduit.

Edison Storage Battery Co., Orange, N. J.—Various types of Edison alkaline storage batteries; use in electric trucks, fire alarm and police signal system, firemen's lamps, steel cars, etc.

Electric Vehicle Association of America, 29 West 39th St., New York City—Charts and educational matter on the use of electric vehicles.

Electrical Testing Laboratories, 80th St. and East End Ave., New York City—Exhibit of the development of electric lamps in last four years, showing a new mercury vapor tube, high candle-power gas-filled tungsten, multiple tungsten and new types of arcs.

General Electric Co., Schenectady, N. Y.—Varied exhibit, including the oscillation transformer for testing insulators; a complete line of high-candle-power mazdas for street lighting; the new Novalux unit; motors and other electrical machinery.

General Vehicle Co., Long Island, City, N. Y.—Electric vehicles, including a two-ton truck.

Habirshaw Wire Co., 1 Madison Ave., New York City—Electrical cable for all purposes.

The Lux Mfg. Co., Hoboken, N. J.—Various styles and types of lamps.

National Lamp Works of General Electric Co., Cleveland, O.—Latest lamp developments, including 2,000 candle-power mazdas.

Neel-Armstrong Co., 2017 Fifth Ave., New York City—Purification of water with ozone.

The New York Electric Vehicle Association—Model electrical garage.

Pratt and Cady Co., 259 Canal St., New York City—Electrically operated gate valves; photographs of installations; cast steel valves for superheated steam.

Ward Motor Vehicle Co., Concord Ave. and W. 143d St., New York City—Electric vehicles; two Ward trucks for the Water Department of Newark, N. J.

The Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.—Lamps of

all types. The pillar type flame arcs for "white ways."

City of New York, Fire Dept.—Bureau of Fire Alarm Telegraphs showed fire alarm apparatus.

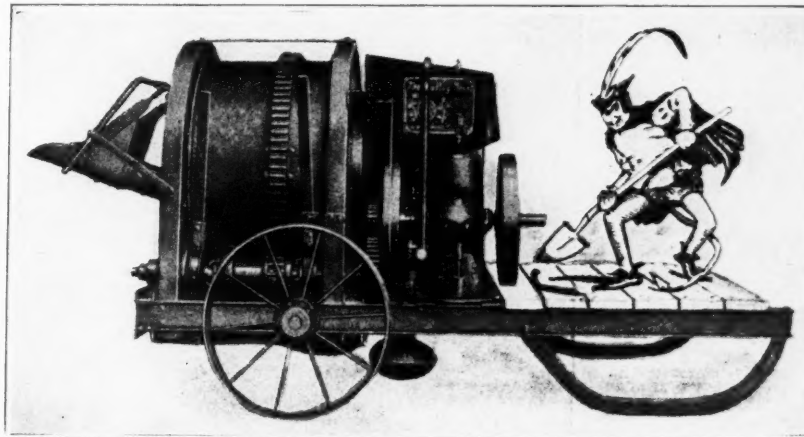
The Lehigh Portland Cement Co., Allentown, Pa., will have an exhibit at the American Road Congress which is calculated to attract considerable attention and interest. The display is unique in its representation of the possibilities of concrete for every type of construction. The model, which represents a miniature concrete village, contains a miniature railroad train which is constantly in motion. The shuttle train running from the warehouse, which represents the Lehigh Portland Cement Company's plant, to a wharf, conveys the idea of Lehigh being shipped all over the world. The beauty of the exhibit and its uniqueness lies largely in the fact that every single building, road, bridge, freight car, etc., has been made according to scale. One receives very much the impression when observing this exhibit that is

ust. The magazine is interestingly written and gives valuable information on methods and examples of brick roads and is very attractively illustrated. The August number contained, among other contributions, "Way Down South," an article on brick roads in Tampa, Florida, by James Riddle, Engineer of Hillsborough County and "Litter Prevention as a Street Cleaning Factor," by Commissioner J. T. Fetherston, of the Department of Street Cleaning, New York. The September number contains an article on "Labor Camp Management in Rural Road Construction."

PERSONALS

(Continued from page 641.)

Gadsden—W. G. Bellinger, mayor; E. G. Christopher, president of council; C. A. Stevenson, W. P. Archer, J. L. Curry, Edw. Pickard, Carl Lay, J. E. Foreman, C. M. Adams and Roe G. Tinsley, board of aldermen. The following committees were appointed: Water—Foreman, Lay, Pickard; fire



"LITTLE DEVIL" CONCRETE MIXER.

gained in standing at the top of a hill and looking over the surrounding country. The roads which are modeled in the Lehigh Portland Cement Company's exhibit are all concrete and illustrate the advantages of concrete for roads.

The O. & W. Thum Co., Grand Rapids, Mich., makers of "Tanglefoot" flypapers, claim that their product is non-poisonous. They point out the perils of arsenic fly poisons and refer to an editorial in the October number of "Child Betterment." The editorial gives figures of accidents caused by the use of fly poisons during the period July 1 to Aug. 24, 1914, in 10 states and covers 35 cases, 5 fatal and 30 non-fatal or uncertain. The actual news items from local papers giving details are quoted and the evidence certainly points to real peril.

"Dependable Highways" is the name of a new monthly magazine "published in the interests of Better City Streets and County Highways," by the National Paving Brick Manufacturers' Association, Engineers' Building, Cleveland, of which Will P. Blair is secretary. Vol. I, No. 1, appeared in Aug-

and municipal buildings—Tinsley, Adams and Archer; public health and sanitation—Stevenson, Curry and Foreman; streets—Curry, Adams and Stevenson; parks—Lay, Foreman and Pickard; lights—Adams, Stevenson and Curry. The following officers were elected: A. W. Pinson, chief of police; A. W. Polglaze, superintendent of waterworks; W. B. Favors, supervisor of streets; N. M. Garrett, city engineer; E. T. Hollingsworth, city treasurer; H. L. Ison, city physician; L. T. Browning, sanitary officer.

Fort Deposit—A. F. Brooks, mayor; J. G. Barganier, C. M. Davis, J. D. Lamar, W. W. Norman and W. L. Stevens, aldermen.

Eufaula—C. G. Mercer, mayor; J. Oppenheimer, president of council; C. J. Folsom, J. T. Mainor, E. A. Ross, A. M. Brown, R. D. Jones, J. F. Rhodes, A. J. Miller and D. Mabry, aldermen.

Dothan—Joe Baker, mayor; A. D. Whiddon, president of council; J. B. Martin, I. C. Ezell, C. C. Hughes, M. Levine, J. W. Grant, F. M. Gaines, K. P. Holland and J. W. Burkett, council.

ADVANCE CONTRACT NEWS

ADVANCED INFORMATION BIDS ASKED FOR

CONTRACTS AWARDED ITEMIZED PRICES

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also correction of any errors discovered.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREETS AND ROADS.				
Ill.	Chicago	11 a.m., Oct.	31..700 sq. yds. creosoted block	L. E. McGann, Comr. P. W.
O.	Cleveland	Oct.	31..Road improvement	County Comrs.
Minn.	St. Peter	10 a.m., Oct.	31..Rural highway; estimated cost, \$55,000	W. H. Holz, Aud.
Neb.	Lincoln	2 p.m., Nov.	1..Grading and paving roadway No. 667	H. E. Wells, Clk.
Ind.	Shoals	2 p.m., Nov.	1..Grading, draining and paving	Comr. Martin Co.
Minn.	St. Paul	10 a.m., Nov.	2..Grading and improving streets, three jobs	August Hohenstein, Pur. Agt.
Fla.	Deland	Nov.	2..5,700 ft. hard surface road	J. G. Page, Chr. Co. Comrs.
Fla.	Vernon	Nov.	2..Building hard road, 18 miles	County Commissioners.
Ky.	Ashland	Nov.	2..20,000 sq. yds. vit. brick paving	W. A. Manning, City Clk.
Okla.	Nowata	10 a.m., Nov.	2..Laying sidewalk	Frank Akwright, Co. Clk.
Ind.	Mt. Vernon	2 p.m., Nov.	2..11,575 ft. road improvements	Comrs. Posey Co.
Ind.	Lawrenceburg	Noon, Nov.	2..Grading, draining and paving with macadam	Comrs. Dearborn Co.
Ind.	Salem	Nov.	2..Construction of 13,300 ft. road; estimated cost, \$6,924.30	Comrs. Washington Co.
Miss.	Pittsboro	Nov.	2..Culvert and road construction	Co. Hwy. Comr.
Miss.	Jackson	2 p.m., Nov.	2..Opening road	W. W. Downing, Clk. Bd. Sup.
Ind.	Elwood	Nov.	2..Constructing cement walk	Bummel, City Clk.
Ala.	Camden	Nov.	2..Grade, drain and surface with chert, about \$12,000	County Comrs.
Ind.	Lawrenceburg	Noon, Nov.	2..Road construction	W. S. Lagaly, Co. Aud.
Ind.	Salem	Nov.	2..Road construction	F. S. Munkelt, Washington Co. Auditor.
Ind.	Greencastle	2 p.m., Nov.	2..Stone road	C. L. Airhart, Putnam Co. Aud.
N. D.	Bismarck	8 p.m., Nov.	2..Paving on various streets	R. H. Thistlewaite, City Aud.
Ind.	Vincennes	4 p.m., Nov.	2..Laying 1,000 sq. yds. concrete sidewalk and 2,200 ft. lime-stone curbing	Board Public Works.
Pa.	Harrisburg	Noon, Nov.	2..1,500 ft. road	M. H. Taylor, Supt. Pks. & P. Prop.
Ill.	Danville	Nov.	3..14,000 sq. yds. brick paving	W. Lewman, Mayor.
Va.	Roanoke	Noon, Nov.	3..Granolithic sidewalks	P. H. Tucker, City Clk.
Miss.	Pittsboro	Nov.	3..Road construction	Co. Hwy. Comr.
Ark.	Marion	Noon, Nov.	3..2½ miles reinforced concrete road	H. W. Hesterly, Engr.
La.	Melville	Nov.	3..Paving	Board of Aldermen.
Fla.	Fort Lauderdale	Nov.	3..Approaches for bridge	Co. Comrs.
Ind.	Winamac	Nov.	3..Stone road	C. E. Paul, Co. Surv.
Ind.	Wabash	1:30 p.m., Nov.	3..Road	D. Showalter, Co. Aud.
Miss.	Vicksburg	Noon, Nov.	3..Road	J. D. Laughlin, Chancery Clk.
Ill.	Berwyn	8 p.m., Nov.	3..Sidewalk construction	City Clerk.
Ind.	Covington	1:30 p.m., Nov.	4..Highway construction	Comrs. Fountain Co.
N. J.	Cranford	8:30 p.m., Nov.	4..Laying cement sidewalks	Township Committee.
Cal.	Santa Ana	11 a.m., Nov.	4..Surfacing and grading road	Board of Supervisors.
Ind.	Shelbyville	11 a.m., Nov.	4..Improvement of highways by grading, draining and paving with gravel. Four contracts: 22,849 ft., 9,500 ft., 14,900 ft. and 11,700 ft.	F. W. Fagen, Aud.
Ind.	Corydon	2 p.m., Nov.	4..Road construction	J. L. O'Bannon, Harrison Co. Auditor.
Ind.	Indianapolis	1:30 p.m., Nov.	4..Construction of highways	W. B. Gray, Aud. Fountain Co.
Ind.	Monticello	10 a.m., Nov.	5..Grading, paving and improving road	H. E. Fisher, Aud.
N. J.	Elizabeth	Nov.	5..7,815 yds. brick paving	Street Com.
Md.	Baltimore	Noon, Nov.	5..Various pieces of state road	State Roads Com.
Cal.	Santa Ana	Nov.	5..Paving 1¼ miles of streets	Board of Supervisors.
Ida.	Pocatello	8 p.m., Nov.	5..Grading, graveling and curbing streets	W. H. Jackson, Jr., City Clk.
Mo.	Kirkwood	8 p.m., Nov.	5..Concrete sidewalk, grading and filling	J. B. Wilde, City Clk.
Ind.	Winamac	Noon, Nov.	5..Grading, draining and graveling road, two jobs	W. E. Munchenburger, Aud.
N. D.	McClusky	2 p.m., Nov.	5..Grading and paving roads	Adolph Achlenker, Aud.
Ind.	Crown Point	1 p.m., Nov.	5..Construction of gravel road	Board of Comrs.
La.	Dubuque	8 p.m., Nov.	5..Construction of sidewalks	J. J. Shea, City Rec.
O.	Cincinnati	Noon, Nov.	5..Brick paving	P. Fosdick, Dir. Pub. Service.
O.	Cincinnati	Noon, Nov.	6..100,000 No. 2 granite paving block	E. Von Barga, City Pur. Agt.
Cal.	Fresno	Nov.	6..Improving road; cost, \$6,800	Edward Frisse, Clk.
O.	Wapakoneta	Nov.	6..Paving several streets	Henry Moser, Dir. P. S.
Kan.	Hutchinson	Nov.	6..Paving with asphalt	City Commission.
N. J.	Trenton	11 a.m., Nov.	6..Road repair contract B, C, D, E and F	State Com. Pub. Roads.
O.	Cincinnati	Noon, Nov.	6..Improvement of Miles Road	Co. Comrs.
O.	Cincinnati	Nov.	6..Improvement of Miles and North Bend road	Board Co. Com.
Pa.	Uniontown	Noon, Nov.	7..Constructing brick road and Tarvia bound macadam road and furnishing 325,000 paving bricks	Fayette Co. Cont.
Pa.	Connellsville	noon, Nov.	7..One mile brick road, ½ mile macadam road, 345,000 paving brick	T. H. Hudson, Co. Solie
O.	Springfield	Noon, Nov.	7..Improvement of street	C. A. Ashburner, City Mgr.
O.	East Youngstown	Noon, Nov.	9..Grading and guttering, also paving	C. R. Anderson, Vil. Clk.
Ill.	Kankakee	2 p.m., Nov.	9..4½ miles of hard road	Geo. Keller, Supt. Highways.
O.	Defiance	2 p.m., Nov.	9..Grading and macadamizing road	Comrs. Defiance County.
Pa.	Cementon	5 p.m., Nov.	9..Grading	C. J. McNally, Twp. Clk.
Cal.	Sacramento	2 p.m., Nov.	9..Construction of state highways	Cal. Highway Commission.
O.	Youngstown	Noon, Nov.	9..Paving and grading several streets	C. R. Anderson, Clk.
Pa.	Allentown	5 p.m., Nov.	9..1,500 feet paving	Bascom & Seiger, Twp. Engrs.
O.	Cleveland	Noon, Nov.	9..Construction of walks and drives at three schools	Director of Schools.
N. J.	Newton	Nov.	9..Five miles of macadam road	W. Iliff, Dir. Bd. Freeholders.
Pa.	Beaver	Nov.	10..Construction of highway	State Highway Dept.
D. C.	Washington	2 p.m., Nov.	10..Grading road at Hygienic Laboratory	O. Wenderoth, Supv. Arch.
Pa.	Harrisburg	10 a.m., Nov.	10..Paving road with asphaltic concrete, brick block and bituminous macadam	E. M. Bigelow, State Hwy. Comr.
Fla.	Fernandino	10 a.m., Nov.	11..6,000 yds. oyster shells	J. W. Keen, Chr. Bd. Co. Com.
N. J.	Camden	Nov.	11..Improving highways	John Prentice, Dir.
Ind.	Brownstown	1 p.m., Nov.	12..County Line Road	A. Leudtke, Co. Aud.
Ind.	Ft. Wayne	10 a.m., Nov.	12..Grading, draining and paving highway	Comrs. Allen County.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Fla.	Lake City	Nov. 16	2,600 yds. vitrified brick paving	J. W. Lane, Secy.
O.	Toledo	10 a.m., Nov. 17	Concrete driveway	Chas. A. Sanzenbacher, Aud.
Mich.	St. Joseph	Dec. 1	Construction of 32 miles of road	Berrien Co. Comrs.
SEWERAGE				
Ill.	Lincoln	2 p.m., Oct. 31	Laying 8,000 ft. of sewer pipe	Drainage Comrs.
Ill.	Chicago	11 a.m., Oct. 31	190 h.p. boiler for sewage pumping plant	L. E. McGann, Comr. P. W.
Ill.	Lincoln	2 p.m., Oct. 31	Sewer pipe and tile	Comrs. of Union Drainage District No. 1.
Okla.	Ardmore	5 p.m., Oct. 31	8,600 ft. 6 and 8-inch sewers	J. B. Brown, Supv.
Ia.	Oskaloosa	8 p.m., Nov. 2	Sanitary sewers	T. H. Carlin, City Clk.
Minn.	St. Paul	10 a.m., Nov. 2	Sewers on three streets	August Hohenstein, Pur. Agt.
N. Y.	New Hartford	8 p.m., Nov. 2	Furnishing and laying 932 ft. 20-inch pipe	Sewer Commissioners
O.	Springfield	Noon, Nov. 2	Construction of sewers in various streets	C. E. Ashburner, City Mgr.
N. J.	Redbank	8 p.m., Nov. 2	Installing sewage ejector	A. G. Harrison, Boro. Clk.
Minn.	Windom	7.30 p.m., Nov. 2	830 ft. 8-in. branch sewer	W. M. Hale, Vil. Rec.
N. D.	Grand Forks	Nov. 2	12-inch sewers	H. Alexander, City Aud.
Pa.	West Chester	Nov. 2	Extension of sewer system	Boro Treasurer.
Pa.	Mars	Nov. 2	Sewage sterilization plant	Boro Council.
R. I.	Woonsocket	4.45 p.m., Nov. 2	About 7,000 ft. sanitary sewer, 8 to 18-inch	City Clerk
Wis.	Appleton	9 a.m., Nov. 3	Sewer	F. L. Williams, City Clk.
Mont.	Billings	Nov. 3	630 feet 8-inch sewer	L. E. Torrence, City Clk.
Tex.	Corpus Christi	Nov. 3	Constructing garbage crematory	City Clerk.
O.	Minerva	Noon, Nov. 4	Construction of storm sewer	Austin Freed, Vil. Clk.
Ind.	Evansville	8 a.m., Nov. 5	Main and local sewers, two jobs	Edward Frisse, Clk.
N. J.	Elizabeth	8 p.m., Nov. 5	Sewage pumping machinery	City Council.
Ia.	Dubuque	8 p.m., Nov. 5	520 ft. 8-inch tile, 4 manholes	J. J. Shea, City Rec.
Ind.	East Chicago	11 a.m., Nov. 6	Sewer system on two streets	T. Y. Richards, City Clk.
N. Y.	Brooklyn	11 a.m., Nov. 6	Constructing sewers, \$13,500	L. H. Pounds, Boro. Pres.
Kan.	Hutchinson	Nov. 6	Construction of two storm sewers	City Commission.
Pa.	Philadelphia	Nov. 6	Collection of ashes and household waste	G. L. Cook, Dir.
Kan.	Hutchinson	Nov. 6	1½ miles of sewer main and sewage pumping plant	City Clerk.
Kan.	Independence	Nov. 7	Seven blocks concrete and brick storm sewers	G. H. Kriehagen, Clk.
Okla.	Lawton	2 p.m., Nov. 7	Storm water sewer system	Dept. of Interior, Washington, B. Sweeney, Asst. Secy.
Okla.	Oklmulgee	Nov. 9	Construction of an incinerator and garbage disposal plant	Comrs. of Finance.
N. J.	Asbury Park	8 p.m., Nov. 9	Furnishing materials and laying 375 ft. 8-inch vitrified salt-glazed sewer pipe	H. L. Baumgartner, City Engr.
Ind.	South Bend	10 a.m., Nov. 10	Pipe sewers	Department Public Works.
La.	Iberville Parish	Nov. 10	Sewage disposal system with septic tank	Board of Control.
Minn.	Tracy	8 p.m., Nov. 10	6,000 ft. of sewer, 17 manholes, 1 lamphole	E. M. Campbell, City Rec.
O.	Geneva	10 a.m., Nov. 10	Construction of ditches	R. N. Case, Co. Surv.
La.	Clinton	8 p.m., Nov. 10	Sanitary and storm sewers	F. W. Leedham, City Clk.
Tex.	Dallas	2 p.m., Nov. 11	Construction of sewage disposal plant	Board City Comrs.
La.	New Orleans	Noon, Nov. 14	Sewer and water connections	Sewerage and Water Board.
Ill.	Chicago	Noon, Nov. 14	Sewer and water extensions	Sewerage & Water Board
La.	New Orleans	Noon, Nov. 14	Sewer extensions, water extensions, connections to sewers and water mains, etc.	F. S. Shields, Sec. Sew. & Water Board.
O.	Conneaut	Noon, Nov. 14	Sewerage system and sewage treatment plant	City Engineer.
Ia.	Iowa Falls	Nov. 15	Sewer and water extensions, \$20,000	J. H. Farrington, City Engr.
Neb.	Mitchell	6 p.m., Nov. 17	Lateral sewers	G. E. Mark, Village Clk.
S. C.	Allendale	Nov. 18	Complete system of sanitary sewers, electric plant and water works	W. F. Googe, Chr. Com. P. W.
N. J.	Camden	Nov. 20	Construction of sewers	City Clerk.
N. J.	Hackensack	Dec. 7	Sanitary sewer system, disposal plant and pumping station	City Commission.
WATER SUPPLY				
Va.	Norfolk	Oct. 31	\$75,000 worth of water meters	Board of Control.
Okla.	Ardmore	5 p.m., Oct. 31	1,800 ft. 4-inch cast-iron pipe	J. B. Brown, Supv.
Minn.	Stillwater	Oct. 31	Drilling artesian well	Village Recorder.
Pa.	Harrisburg	10 a.m., Oct. 31	Laying water pipe	H. M. Bowman, Dir. P. Safety.
Kan.	Little River	Nov. 1	Construction of water system; cost \$25,000	W. B. Rollins, Kansas City, Mo.
Ill.	Grey's Lake	Nov. 2	Deep well pump and motor	Village Clk.
N. Y.	Mayville	Nov. 2	Water and electric light improvements	W. H. Scofield, Clerk.
N. Y.	Perrysburg	Nov. 2	Laying 6-in. c-i. water pipe	Comr. Pub. Wks., Buffalo.
Cal.	Sunnyvale	Nov. 2	Construction of water works	Town Clerk.
Ia.	Bushnell	Nov. 2	Drilling and casing of well, 1,300 ft. deep	P. J. Destinger, Clk.
O.	Springfield	Noon, Nov. 2	Furnishing and installing water valve	C. E. Ashburner, City Mgr.
Ill.	Berwyn	8 p.m., Nov. 3	Water pipe	Board Local Imp.
Miss.	Gulfport	Nov. 3	3,400 ft. 8-inch, 7,200 ft. 6-inch pipe; 17 fire hydrants, 12 gate valves	P. W. Wells, Clk.
La.	Mansfield	Nov. 3	Pumping machinery	L. E. Colvin, City Clk.
N. J.	Branchville	1 p.m., Nov. 4	8-inch and 6-inch cast-iron pipe	G. W. Roe, Boro. Clk.
Ill.	Chicago	11 a.m., Nov. 5	Capping water pipes	L. E. McGann, Comr. P. W.
La.	Houma	Nov. 6	Direct-connected centrifugal pumps, 200 gallons capacity	Mayor.
La.	Houma	Nov. 6	Electrical and pumping equipment	Mayor.
La.	New Orleans	Noon, Nov. 10	Water supply and sewerage system, boilers, engines and pumps	Bd. Control, New Court House Bldg.
La.	Iberville Parish	Nov. 10	Water supply system	Board of Control.
N. Y.	New York	11 a.m., Nov. 10	Construction of Moodna siphon	Catskill Water Supply.
Ill.	Oglesby	Nov. 12	Artesian wells, 1,650 feet deep	J. Corgiat, City Clk.
La.	West Monroe	Nov. 14	Enlargement of water and light plant	N. G. Tippet, Mayor.
La.	New Orleans	Nov. 14	Water main and sewer extensions	Sewerage & Water Board.
Ill.	Oglesby	Nov. 16	Artesian well 1650 feet deep	City Clerk.
Ill.	Hinsdale	Nov. 16	Installation of water softening plant	Village Board.
O.	Springfield	4 p.m., Nov. 16	Installation of deep well pump	Building Comn. for Infirmary Bldg. in Clark County.
O.	Springfield	4 p.m., Nov. 16	Deep wells and compression tanks	J. M. Pierce, Co. Aud.
S. C.	Allendale	Noon, Nov. 18	13,500 ft. 6-in. and 8-in. c-i. pipe, 35 fire hydrants, 42 gate valves, 100,000 gal. tank and tower, pumping plant, reservoir, etc.	J. Googe, Clk. Pub. Wks.
S. C.	Allendale	Nov. 18	Sewers, water works and electric light systems	Comr. of Pub. Works.
La.	New Orleans	Noon, Dec. 1	150,000 lbs. of 5-ft. and 12-ft. riveted steel pipe	J. S. Shield, Secy.
Cal.	San Francisco	Dec. 1	Construction of 2,000,000 gallon reservoir	Water Comr.
Greece	Athens	1915, Mar. 30	Water supply for Athens and additional cities, estimated cost, \$14,000,000	Bur. of Foreign & Domestic Commerce, Wash., D. C.
LIGHTING AND POWER				
D. C.	Washington	Oct. 31	Water pipe lighting fixtures	Engineer Depot, Washington Barracks, D. C.
D. I.	Newport	11 a.m., Oct. 31	Street lighting	Bur. of Yds. & Docks, Navy Dept., Washington, D. C.
D.	Cincinnati	Noon, Nov. 2	Four bottom-dump wagons and two lined asphalt dump wagons	E. Von Bargen, Pur. Agt.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
La., Melville	Nov.	3..	Erection of electric light plant.....	Board of Aldermen.
Minn., Minneapolis	3 p.m., Nov.	3..	Underground conduit and cable system.....	O. Wenderoth, Wash., D. C.
O., Cincinnati	Noon, Nov.	5..	Electric lighting system for viaduct.....	P. Fosdick, Dir. P. S.
Pa., Wilkes-Barre	6 p.m., Nov.	5..	Lighting streets, avenues and public places.....	F. C. Rowe, Secy.
N. J., Newark	4 p.m., Nov.	6..	Furnishing electric lights for bridges.....	Richard F. Mattia, Chr.
O., Toledo	10 a.m., Nov.	6..	Heating and lighting plant at Children's Home.....	C. J. Sanzenbacher, Co. Aud.
O., Toledo	Nov.	6..	Construction of power house and equipment for power plant.....	Board Co. Comrs.
Ill., Collinsville	Nov.	6..	Lighting and fixtures for post office.....	O. Wenderoth, Wash., D. C.
Minn., St. Paul	10 a.m., Nov.	9..	Street lighting, gas and electric.....	August Hohenstein, Pur. Agt.
La., New Orleans	Noon, Nov.	10..	Electric lighting, water supply and sewers.....	J. J. Prowell, Pres. La. Leper Home.
Ill., Canton	Nov.	10..	Lighting and fixtures for post office.....	O. Wenderoth, Wash., D. C.
Ind., Indianapolis	Nov.	17..	Lighting parks, boulevards and bridges.....	Ed. of Park Comrs.
Tenn., Fayetteville	Nov.	19..	Lighting fixtures for post office.....	O. Wenderoth, Wash., D. C.
FIRE EQUIPMENT				
Ont., Toronto	Oct.	31..	Supplies and fire alarm equipment.....	H. C. Hocken, Mayor.
Kan., Lawrence	5 p.m., Nov.	2..	1,000 ft. 2½-in. fire hose.....	F. B. Brooks, City Clk.
Cal., Fresno	9 p.m., Nov.	2..	5,000 ft. 2½-in. hose, 2,500 ft. 1½-in. hose.....	W. H. Ryan, City Clk.
N. J., Perth Amboy	8:30 p.m., Nov.	2..	2,500 feet fire hose.....	City Clerk.
Minn., St. Paul	10 a.m., Nov.	2..	5,000 ft. 2½-in. hose.....	August Hohenstein, Pur. Agt.
Pa., Lansdowne	Nov.	3..	500 ft. 2½-in. hose.....	J. W. Davis, Secy.
Tex., Sherman	7:30 p.m., Nov.	16..	1,000 ft. 2½-in. cotton hose.....	Hy. Zimmerman, City Secy.
Cal., Mare Island	10 a.m., Nov.	17..	Furnishing fire and air hose for Navy Yard.....	Navy Pay Off., San Francisco.
BRIDGES				
Me., Portland	Noon, Nov.	2..	Construction of bridge between Portland and South Portland.....	Board Co. Comrs.
O., Painesville	Noon, Nov.	2..	Steel highway bridge over Chagrin River.....	W. A. Davis, Co. Aud.
Kan., Stockton	10 a.m., Nov.	2..	16-foot bridge.....	Board Comrs., Rooks Co.
Miss., Pittsboro	Nov.	2..	Culverts.....	Chancery Clerk.
Miss., Yazoo City	Nov.	2..	Bridge across Piney Creek.....	S. S. Griffin, Clk.
N. Y., Yonkers	Nov.	2..	Reconstruction of a bridge.....	Board of Contract & Supply.
Ind., Lebanon	Nov.	3..	Construction of bridge approach.....	D. M. Clark, Aud. Boone Co.
Ind., Rich Valley	1:30 p.m., Nov.	4..	Paving bridges.....	D. Showalter, Aud.
Ind., Bruceville	2 p.m., Nov.	4..	Construction of Hollingsworth bridge.....	J. T. Scott, Aud. Knox Co.
Pa., Uniontown	Noon, Nov.	4..	Bridge construction.....	Harry Kisinger, Controller, Fayette County.
Cal., Fresno	Nov.	6..	75-foot bridge.....	Board of Supervisors.
N. Y., Schuylersville	4 p.m., Nov.	6..	Substructure and superstructure.....	J. J. Keefe, Town Supt., Saratoga.
O., Dayton	10 a.m., Nov.	6..	Materials and labor for construction of a 6-span steel bridge.....	W. H. Aszling, Secy.
Okla., Walter	2 p.m., Nov.	7..	Bridge construction.....	Comrs. Cotton County.
Miss., Vicksburg	Nov.	8..	Steel and concrete bridge, to cost \$18,000.....	Comrs. Warren and Hinds Co.
Ia., Muscatine	1 p.m., Nov.	9..	Construction of a pony truss bridge.....	J. J. Ryan, Co. Engr.
S. D., Britton	1 p.m., Nov.	10..	Bridges and culverts.....	Comrs. Marshall Co.
S. D., Salem	2 p.m., Nov.	11..	Steel and reinforced concrete bridges.....	A. E. Ecklein, Aud.
Fla., St. Augustine	10 a.m., Nov.	15..	Concrete bridge.....	W. W. Snow, Clk. Circuit Ct.
Fla., St. Augustine	Nov.	16..	Concrete bridge.....	Board of Co. Comrs.
D. C., Washington	2 p.m., Nov.	17..	Reinforced concrete arch bridge.....	Comrs. Dist. of Columbia.
Neb., Ord	Nov.	17..	Concrete girder bridge.....	Co. Clerk.
Ind., Ft. Wayne	10 a.m., Nov.	19..	Construction of a bridge across St. Mary's River.....	County Commissioners.
MISCELLANEOUS.				
Pa., Pittsburgh	Nov.	21..	Two air compressors, 1 water turbine.....	U. S. Engineer's Office.
N. Y., Ithaca	2 p.m., Oct.	31..	Equipment for central heating plant for State College of Agriculture.....	E. L. Williams, Treas., Cornell University.
Ill., Chicago	11 a.m., Nov.	2..	525 tons Northern pig iron, 525 tons Southern.....	L. E. McGann, Comr. P. W.
Ill., Chicago	11 a.m., Nov.	2..	Installing plumbing in the Municipal Foundry.....	L. E. McGann, Comr. P. W.
Tex., Corpus Cristi	Nov.	3..	Constructing garbage crematory or incinerator.....	City Clk.
Minn., Minneapolis	2 p.m., Nov.	3..	Construction of underground conduit.....	Supv. Architect, Wash., D. C.
Pa., Pittsburgh	3 p.m., Nov.	3..	Construction of Schenley High School.....	Board of Education.
N. J., Asbury Park	8 p.m., Nov.	4..	Jetties.....	W. P. Sherman, Secy. Public Grounds Com.
N. Y., Brooklyn	3 p.m., Nov.	5..	Steam heating apparatus for Brooklyn Institute.....	Park Board.
P. I., Ft. Mills, Corregidor Island,	Nov.	5..	Three-story brick and stone Normal School.....	Board of Trustees, J. Jump, Secy.
Okla., Okmulgee	Nov.	9..	Construction and equipment of incinerator and garbage disposal plant, capacity 5 tons for 24 hours.....	Comrs. of Finance.
O., Cleveland	Nov.	10..	Three-story school, reinforced concrete floors and brick wall construction; estimated cost, \$200,000.....	Board of Education.
Ill., Canton	3 p.m., Nov.	10..	Construction of two-story post office.....	O. Wenderoth, Wash., D. C.
Ore., Dalles	Nov.	12..	Federal building.....	Architect, Washington, D. C.
Va., Norfolk	Jan.	16..	150 ton capacity floating revolving crane; cost, about \$450,000.....	Bur. Yds. & Docks, Navy Dept., Wash., D. C.
N. Y., Syracuse	3 p.m., Nov.	16..	Wiring and lighting system for Post Office.....	O. Wenderoth, Supt. Architect.
S. D., Flandreau	1 p.m., Nov.	17..	Wood furniture for Court House.....	G. H. Chorpeneing, Aud.
Wash., Puget Sound	10 a.m., Nov.	17..	Garden hose.....	Navy Pay Office, Seattle.
S. D., Flandreau	9 a.m., Nov.	18..	Metal furniture and light fixtures.....	G. H. Chorpeneing, Aud.
	2 p.m., Nov.	19..	Reinforcing steel and metal lathing.....	Cap. R. V. Harper, Q. M.
D. C., Washington	2 p.m., Nov.	21..	Rewiring patent office.....	R. Sweeney, Asst. Secy.
Okla., El Reno	2 p.m., Nov.	24..	Construction of Post Office.....	O. Wenderoth, Supt. Architect.

STREETS AND ROADS

Gadsden, Ala.—Mayor advocates street paving should be taken up at present time.

Van Buren, Ark.—Paving of Broadway is being urged by taxpayers.

Tacoma, Ariz.—A letter has been received by Secretary John F. Myers of Chamber of Commerce from secretary of Yuma Commercial Club stating that body has endorsed proposed \$5,000,000 bond issue for good roads, adding that in case issue carried, Yuma county would build 80 miles of good roads from Yuma to Maricopa county line, making state highway entirely across state.

Berkeley, Cal.—Members of City Council have voted to print ordinance de-

manding of Key Route work on Grove St. of permanent nature, to cost approximately \$72,000.

San Francisco, Cal.—Board of Works has decided that the following streets be paved: Buchanan, Broderick and Gough, between Lombard and Chestnut Sts.; Whittier, between Morse and Brunswick, and Mendell, between Fairfax and Galvez.

Santa Ana, Cal.—There is a project on foot to extend Newport Road from its present terminus at Lemon Heights north over low foothills to point east of El Modena, thence northward, joining present and proposed roads along foothills of El Modena, Villa Park and Olive.

Santa Ana, Cal.—State Highway Commission has issued order that an inch

and a half asphalt surface be placed upon state highway between Anaheim and Fullerton. Mixture to be used is that known as Topeka mix. Surfacing will be same in mix and thickness as that laid on state highway between Santa Ana and Anaheim.

Yreka, Cal.—Siskiyou County has purchased \$50,000 worth of state highway bonds. This latest purchase brings Siskiyou County's total subscription up to \$150,000. Route over which highway is yet to be constructed has been divided into three sections: A, 18.2 miles; B, 28.46 miles; C, 25.35 miles. The contract was recently let for part of this road—8 miles—from Hornbrook to Oregon County line.

Washington, D. C.—An American con-

sular officer in Russia reports that road department of city government in his district is interested in American road-making machinery. It is explained that officials are acquainted with one or two American makes, but would like to have names and addresses of additional manufacturers of like machinery. Descriptive literature, catalogues, price lists and discount sheets, preferably in Russian, German, or French language, should be mailed to American consular officer for transmission to the inquirers. No. 14140, Bureau of Manufactures.

Lake City, Fla.—This city is soon to have another street paved with vitrified brick. Board of bond trustees is advertising for bids to pave DeSoto St., which will be done in near future.

Salerno, Fla.—Sum of \$30,000 will be spent in Palm Beach County for rock roads, a bridge across St. Lucie River and other improvements.

St. Augustine, Fla.—See "Miscellaneous."

Chicago, Ill.—State Highway Commission, according to S. E. Brandt, its secretary, will ask next legislature for \$2,500,000 to construct permanent roads throughout Illinois.

Chicago, Ill.—Legislative action providing for transforming of unusual portion of old Illinois and Michigan Canal between Chicago and Lockport into boulevard has been planned by Lawrence E. McGann, commissioner of public works, and members of drainage board.

Chicago, Ill.—Election will be held Nov. 3 for voting on \$3,500,000 boulevard issue.

Erie, Ill.—A special election held here resulted in Erie Twp. appropriating \$2,000 to cover top of high grade on Rock River valley highway, just west of Erie, with Spring Valley gravel. The proposition carried.

E. St. Louis, Ill.—County of St. Clair has selected 212 miles, comprising practically all principal roads in the county, for improvement. State has made allotment from State Aid Fund for this county of \$14,000, which fund is made up by taxation from all counties of State, including St. Clair.

Springfield, Ill.—Commissioner Hamilton has announced at city hall that petition is being circulated among property holders for boulevard pavement and lighting system in 6th St. from Jackson to Mason St.

Springfield, Ill.—Two bids for state aid road improvement in Canton Twp., including proposed extensions from West Locust St., North Main and West Maple Sts., filed with the State Highway Commission, have been opened. G. A. Myers, of Peoria, bid \$35,000 and the Carpenter Construction Co., of Cloverland, Ind., \$33,443. It is probable that bid of Carpenter Company will be accepted, as other exceeds the estimate.

Ft. Wayne, Ind.—County Commissioners have announced sale of Huntington Rd., in Lafayette Twp., for Nov. 12, in commissioners' court. Sale will be held at 10 o'clock.

Fowler, Ind.—W. H. Cheadle, treasurer of Benton Co., is advertising sale of \$11,980 highway improvement bonds, 4½ per cent interest, 10 years, for John Brost Rd., in Hickory Grove Twp. Bonds are to be sold at 1 p. m., Oct. 27.

Richmond, Ind.—Wayne and Randolph county commissioners have held joint meeting to sign bonds for Orlando Marshall road improvement on county line. Issue is for \$5,000, half of which is payable in each county.

Burlington, Ia.—City Council has been petitioned by residents on Summer St., or residing on thoroughfares adjacent to Summer St., to authorize paving with concrete of that street south to city limits, connecting with county road.

Keokuk, Ia.—Ordinance has been passed providing for extension of Commercial St. from easterly line of lot 4, block 6, Reid's addition, extended to B St. and through lots 1, 2 and 3, in said block 6, Reid's addition, to city of Keokuk; and also providing for parked space between Bluff St. and S. 5th St. and B St. O. W. Sandberg is City Clerk.

Lexington, Ky.—Board has passed ordinance directing Mayor to issue and sell West Short St. improvement bonds for \$7,729.26 for improvement of West Short St. from Sycamore St. to Georgetown St.

Lowell, Mass.—At a meeting of the Board of Trade highway committee it was stated that construction of boulevard highway along river bank in Indian Orchard would cost approximately \$60,000 from Road St. to city line where river state highway to Lawrence begins. Estimates constituting total amount were submitted by City Engineer Kearney.

Marblehead, Mass.—Bids for construction of Wyman and Bubler roads have been received by board of selectmen but as all were above appropriation they will consider it. Bids were John Cudihy, the whole job, \$7,964, and without hill \$5,075. The Porter Ice Co. will do whole for \$6,500 and without hill, \$4,500.

Pittsfield, Mass.—Aldermen have adopted \$6,500 for paving portion of new West St.

Springfield, Mass.—Paving of Charter Ave., between Walnut and Oak St., has been authorized.

Dowagiac, Mich.—An appropriation of \$35,000 has been made by board of supervisors in session at Cassopolis for purpose of constructing 16 miles of improved highway which have been decided upon by county highway commissioners and which supervisors approved. Good roads to be constructed next year will be continuations of strips built during 1914, making two miles constructed in each township under county highway reward system. An extra mile will be constructed in LaGrange township at Wilbur hill, near this city.

Flint, Mich.—Election will be held Nov. 3 for voting on bond issue of \$232,372 for paving and sewer improvements.

Duluth, Minn.—Paving of 39th Ave. with concrete from Oneota St. to 8th St. may be petitioned for.

Duluth, Minn.—Paving of 39th Ave. W. is being discussed.

St. Paul, Minn.—Many public improvement projects will come before Council on intermediary orders Nos. 17 to 20. They include grading of Oxford St. from Iglehart to Rondo St. at a cost of \$13,023.70, or \$11.97 a front foot; boulevarding and curbing of Fairview Ave. from University to Summit Ave. at \$2,887; paving of Dayton Ave. from Victoria to Chatsworth at cost of \$14,384, or \$6.04 a front foot, and about a dozen other small sewer, curbing and grading jobs, besides about 15 sidewalk jobs.

Meridian, Miss.—Bids will be asked for construction of concrete culvert in center of block bounded by Ninth and Tenth Sts., 25th and 26th Aves.

Kearney, Neb.—Through efforts of Buffalo Co. and Kearney Town Councils, seeding mile of road to be laid in Nebraska will be laid in Kearney next spring. Association offers 2,000 barrels of cement and necessary steel culverts. Through sale of certificates local councils have raised close to \$1,000, and from automobile tax fund at least \$1,500 more can be obtained. Road will be built 16 feet wide and will adjoin state industrial school property on the east.

Freehold, N. J.—Notice has been given board of freeholders that state road department has approved plans and specifications for Deal lake flume road and bridge and that state controller will on Nov. 1 be asked to certify appropriation for state's share of cost. Cost of work is to be about \$14,000. It includes concrete retaining wall across flume, a bridge and connecting links between new road with Ocean Ave., Asbury Park, and Ocean Road, through Loch Arbour.

Jersey City, N. J.—When bids were opened on \$150,000 worth of boulevard repair bonds it was found that bids were the lowest ever received for Hudson Co. bonds. Highest bid was by A. B. Leach & Co., and was at par with accrued interest and premium of \$150. Board has refused to award the bonds to highest bidder, and announced that matter would be held under advisement until next meeting, Nov. 12.

Linden, N. J.—Bids for constructing wings in Gibbons St., between Wood Ave. and Summit St., have been received from C. H. Winans Company and Charles Lentz, Jr., by Township Committee and referred to Road Committee and engineer, with power. Lentz bid \$1,944.40, and Winans Company, \$1,710.40.

Paterson, N. J.—Board has passed ordinance providing for grading, curbing and guttering of portions of following streets and avenues: East 23d St., East 24th St., and Ninth Ave.

Paterson, N. J.—Proposals are to be solicited to regrade North First St., from Bergen to East Main St.

Paterson, N. J.—Ordinance has been adopted providing for grading, curbing and guttering of certain streets and avenues in city. C. D. Cooke is President, Board Public Works.

Rutherford, N. J.—Ordinance has been passed to macadamize Francisco Ave.

Trenton, N. J.—It is proposed to open a street along Delaware River to be known as Commercial Ave.

Brooklyn, N. Y.—Extension of shore road in front of Ft. Hamilton Military Reservation is being planned; estimated cost \$400,000 to \$500,000.

Glen Cove, N. Y.—One of most notable improvements for this village will be made shortly when Glen and School Sts., the two leading thoroughfares of Glen Cove, will be paved with new asphalt blocks. Pavement will be made with the asphalt blocks over a base of five inches of concrete.

Great Neck, L. I., N. Y.—Propositions to appropriate sum of \$44,500 for road and park improvements will be voted for at special town meeting called for Nov. 3, Election Day. Roslyn wants \$12,000, Great Neck Station, \$22,500, and Port Washington, \$10,000. Latter sum is wanted for park purposes. Roslyn wants \$6,000 for park improvements. This money is needed for laying out and constructing across tract of land known as Roslyn Park, road extending from highway running along the easterly side of Roslyn to the highway running along westerly side thereof and for otherwise improving said park and for laying out and constructing paths and for ditching, draining and grading the same. Roslyn also wants \$6,000 to improve with macadam Jefferson Ave. from Warner Ave. to Pryor's road. Great Neck wants \$2,500 for improving with macadam Linden St. from Manhasset Ave. to Susquehanna Ave.; also sum of \$20,000 for macadamizing various streets.

Great Neck, L. I., N. Y.—Town Board of North Hempstead has approved petition of residents of Great Neck for construction of sidewalks on Hicks lane, and of residents of Roslyn for sidewalks on Jefferson Ave., from Warner Ave. to Power House Rd. Superintendent of Highways Edmund O'Connor has been instructed to advertise for bids for construction of these walks.

Little Falls, N. Y.—Election will be held Nov. 3 for voting on bond issue of \$50,000 for paving.

Waterloo, N. Y.—Village Board of Trustees has directed Village Clerk Jacob Brooks to post necessary notices for special village election, to be held on Saturday, October 31, for purpose of voting upon proposition for paving with brick and macadam from corporation limits in East Main St. to Virginia and south in Washington St. to River, connecting with state route 6. Contractors' figures on work reach nearly \$70,000, of which village and Geneva & Auburn Railway Company are to pay \$47,000, and county and state the balance.

Charlotte, N. C.—Executive Board is preparing to expend \$9,000 which will be shortly forthcoming from county as its rebate to municipality in township taxes. At its last meeting, latter body requested County Commissioners who have asked for privilege of working out amount rather than to pay it in cash to expend money as follows: Providence road from the Myers Park entrance through Crescent Ave. in Colonial Heights, \$2,500; Pineville road, \$2,500; Beattie's Ford road through Seversville, \$2,000, and North Tryon St. between the railroad trestles, \$1,500. This will take \$8,500 of the total amount of \$9,000.

Elizabeth City, N. C.—Aldermen have passed ordinance to curb and pave Riverside Ave. from Charles Creek bridge to Elizabeth City hospital.

Bismarck, N. D.—Formal resolutions for street grading in east end of city to estimated value of \$12,400 have been adopted and auditor directed to advertise for bids.

Cincinnati, O.—County Commissioners are considering repairing of Old Brooks road at Harrison at cost of \$7,892.

Cincinnati, O.—Ordinance has been passed to proceed with improvement of Marshall Ave., from McMicken Ave. to a point 1,319 feet northeast, by grading, setting granite curb, paving the roadway with macadam, constructing the necessary drains and inlets, and laying a 6-inch water main.

Coshocton, O.—Bids will be received until noon, Nov. 16, for purchase of bonds in sum of \$2,500 for improvement of Hickory St. Hugh Gamble is City Auditor.

Idabel, Okla.—At election on Nov. 3 road and bridge bonds in sum of \$122,000 will be voted on.

Sandusky, O.—City engineer will prepare plans, specifications and estimates for various street improvements, including two miles of city highway.

Sharonville, O.—Road bonds in sum of \$720.65 will be sold at noon, Nov. 14. Joseph Wright is Clerk.

Springfield, O.—Chief Engineer Bahin has prepared following estimates: W. F. Payne, North Limestone paving, \$2,160; Payne, Madison Ave. paving, \$6,341.

Youngstown, O.—Ordinance has been passed for improvement of Bellview Ave.

Youngstown, O.—Resolution has been passed to pave Ohio Ave. from Woodward to Dunkirk Ave.; also to pave Lexington Ave. from Belmont Ave. to Wirt St.

Prairie City, Ore.—Citizens of Prairie City, chiefly business men, have decided to build proposed road from Prairie City to Long Creek, approximately 30 miles, despite action of Grant county court in refusing to appropriate funds for road after having bought right of way and surveyed the route. Long Creek citizens will build 10 miles of road at their end and Prairie City the other 20 miles. It is declared that this road will divert much traffic to Baker.

Carlisle, Pa.—Ordinance has been passed providing for paving with vitrified brick of that section or portion of N. Hanover St. extending from intersection of said street with Church alley where present brick paving ends to north side of North St.

Clifton Heights, Pa.—Election will be held Nov. 3 for voting on \$35,000 street improvement bond issue.

Connellsville, Pa.—Ordinance has been passed to provide for grading, paving and curbing of Cottage Ave. between E. Fayette St. and E. Murphy Ave.

Erie, Pa.—Ordinance has been passed providing for construction of nine (9) inch diameter lateral tile sanitary sewer in 24th St., in the City of Erie, Pa., extending from Plum St. west 600 ft., more or less, together with necessary house connections.

Harrisburg, Pa.—New parkway is being planned by W. H. Manning, city's park expert.

Philadelphia, Pa.—Bids for opening of Tulip and Emerald Sts., under tracks of Port Richmond branch of Philadelphia and Reading Railway Co., will be advertised at once, according to announcement made by Director Cooke, of Department of Public Works. Two new streets will be opened under 27 tracks of railroad. Project will involve expenditure of approximately \$1,000,000, of which city will pay half. Plans for work have already been drawn.

Philadelphia, Pa.—Bids for highway improvements which will cost approximately \$125,000 have been opened by Director Cooke, of Department of Public Works. Work to be done includes grading, paving and repaving of streets with asphalt, wood block, Belgian and vitrified blocks and country road surfacing and resurfacing. Because of failure of Councils to appropriate money at time they authorized paving of streets, \$50,000 worth of paving contracts cannot be awarded immediately.

Philadelphia, Pa.—Olney Ave. will be resurfaced from 5th St. to Old York Rd.

Pittsburgh, Pa.—See "Miscellaneous."

Williamsport, Pa.—Paving of Water St. is being planned.

Sioux Falls, S. D.—Resolutions providing for grading of Menlo Ave., between 15th and 22d Sts., and of Minnesota Ave., between 7th and 8th Sts., have been adopted.

Knoxville, Tenn.—Arrangements have been completed by Knox Co. Commission for purchase of equipment for road work in 8th Dist. to amount of about \$2,100. This will include combination crusher and roller and two graders. It will be used for purpose of macadamizing roads in that district, and will be operated under direction of Roscoe York, road supervisor.

Corsicana, Tex.—Good Roads Commission for Dist. No. 1 has decided to buy 30,000 cu. yds. of gravel right away and to push work of building roads as rapidly as possible.

Dallas, Tex.—Widening of North Harwood St. is being favorably considered.

Lynchburg, Va.—A movement is under way in Lynchburg to pave Main St., one of principal thoroughfares of that city, and officials are gathering data concerning various materials for use in this work.

Norfolk, Va.—Bids received for furnishing 1,600 lin. ft. of granite curbing, 6 sets of corners and 500 tons of granite or Belgian block are as follows: Linehan, Carroll & Co., 45 cts. per ft. for curbing, 50 cts. per ft. for corners and \$4.17 per ton for granite block; Faith Granite Co., 40 cts. per ft. for curbing, 45 cts. per ft. for corners and \$4.75 per ton for block; Wise Granite Co., 49 cts. per ft. for curbing, 59 cts. per ft. for corners and \$4.75 per ton for block; Mt. Airy Paving Block Co., \$4.90 per ton for paving block; North Carolina Curbing Co., 40 cts. per ft. for both curbing and corners.

Welch, W. Va.—Road bond election will be held Nov. 3 for voting on \$165,000 issue for Big Creek Mag. District.

Chehalis, Wash.—Road bonds in sum of \$75,000 will be voted on at coming election. It is planned, if bond issue carries, to build road system that will enable residents of Wahkiakum Co. to reach outside world in comfort over wagon roads.

Everett, Wash.—Proposition to build system of permanent roads through Snohomish county will be voted on at coming election. Bond issue of \$1,500,000 will be voted on.

Seattle, Wash.—Plans have been approved for paving of 8th Ave. West, 5th Ave. North and concrete walks on 5th Ave. West.

Tacoma, Wash.—Ordinance has been passed to authorize Commissioner of Public Works to purchase 34,000 sand stone paving blocks, and appropriating \$2,500,000 from General Fund to pay for same.

Tacoma, Wash.—Upon receipt of \$500 from business men of Tacoma and Seattle to defray expenses of survey, County Commissioners have passed resolution ordering county engineer to make survey for road from Orting to Mount Tacoma, entering forest reserve on north side and passing between Voight and Carbon rivers. Road would be approximately 40 miles long and would open not only a new route to mountain and many scenic spots, but provide line of travel for large agricultural district. After survey is completed and cost of constructing road estimated, attempt will be made to get state legislature to appropriate funds for its construction, jointly with national government.

CONTRACTS AWARDED.

Ozark, Ala.—By State Highway Department, Montgomery, for grading, draining and surfacing with sand clay about 5½ miles state aid road at Ozark, to J. G. Brown, Montgomery, at \$6,542.

Dunsmuir, Cal.—Toohey and Johnson were successful bidders for contract of building state highway between Dunsmuir and Weed, Siskiyou county.

Los Angeles, Cal.—For 525,000 sq. ft. asphalt pavement, 17,900 lin. ft. curb and 203,000 sq. ft. sidewalks to Geo. H. Oswald, O. T. Johnson Building, at \$118,122.

Pasadena, Cal.—To Hart & Ducey, contract to improve Hill Ave. by grading, curbing, guttering, etc., for \$12,564.

Hartford, Conn.—To Stafford & Mather, city, for construction of section of trap rock macadam road 3,580 ft. long for about \$6,593 by State Highway Commissioner.

Titusville, Fla.—To B. Ackerman, city, at \$2,218, for 2,630 ft. grading and surfacing on Tropic St.

Evanston, Ill.—By Board of Local Improvements, to M. Foley Co., at \$6,981, for paving Ingleside Pl. with bituminous macadam.

Galesburg, Ill.—But two contractors submitted bids to Board of Local Improvements for Cedar St. paving. Contractor J. E. McAuley, Galesburg, had low bid with \$29,177.95. His former bid was \$28,589.44. Contractor P. H. Tierman's bid was \$29,289.09, while his previous bid was \$29,480.10.

Rock Island, Ill.—By City Council, to Independent Constr. Co., Davenport, Ia., paving in 31st St. and Sixth Ave.

Streator, Ill.—By Board of Local Improvements, to Wm. Taylor Smith, for paving E. 1st St., from Bloomington to Park St., abt. 450 ft., with single course of brick block and cement curbing.

Sullivan, Ill.—For 10,000 sq. yds. brick pavement and 8,000 lin. ft. combined curb and gutter, to L. R. Harshman, of Sullivan, at \$21,165. F. E. Pifer is Mayor.

Ft. Wayne, Ind.—For constructing stone road No. 1, to Dean Ellison, at \$12,374.

Ft. Wayne, Ind.—Board of Works will give Grace Construction Co., Ft. Wayne, Ind., contract for paving St. Mary's Ave., from Breck to Burgess, with anchored bituminous concrete, at \$8.59 a lin. ft. Same company has just completed paving of another section of same street. Moelering Co. bid \$8.35 for straight concrete with stone curb.

Hartford City, Ind.—The L. W. Rook Construction Co., Dunkirk, has been awarded contract for supplying county stone for repair of its roads by Board of Commissioners. The bid was 76 cts. a ton.

Anamosa, Ia.—To Dearborn Construction Co., Waterloo, for paving, vitrified brick fibre block to be used throughout, 3-in. thickness on 5-in. concrete base, at \$2.05 per yd.; on less traveled streets

brick is to be 2½-in. on 4-in. base at \$1.63 per yd.; about 9,600 yds.

Salina, Kan.—Firm of Watts & Ammerman was only one to bid on paving of alley from Iron to Walnut between Fourth and Fifth. Contract was awarded. Figures are the same as for paving of alley between Santa Fe and Seventh, \$1.25, and the job is to be of the same material, 6-in. concrete. Excavation will cost 6 cts. less per cu. yd.

Salina, Kan.—Bids on walk have been received from Peter Ahlstedt, L. H. Lyon, Z. T. Heminger and L. C. Ahart. Only bids on relaying present walk on line and grade were considered and contract went to Mr. Heminger. He bid 2½ cts. for cash and 3½ cts. for scrip, new brick to be furnished at \$7 per thousand.

Winfield, Kan.—For ten blocks brick pavement (vertical fiber block), about 12,500 sq. yds., to Elliott & Vance, Fredonia, at \$1.49 per sq. yd. Other bids as follows: Chas. T. Besler Co., Winfield, \$1.63, and E. T. Wilcox & Co., Kansas City, Mo., \$1.86.

Baltimore, Md.—The Home Cement Co. has been awarded contract by Paving Commission for paving alleys with concrete by Board of Awards at their total bid of \$14,424.40.

Hagerstown, Md.—County Commissioners have let contract for construction of state road from Smithsburg to Pennsylvania state line via Ringgold, a distance of approximately 4 miles, to J. F. Sprankle for \$3,950 per mile, subject to approval of State Road Commission.

Boston, Mass.—By Massachusetts Highway Commission, Boston, for building section of public road in Lanesborough, to R. W. Emerson, 20 Boylston St., Pittsfield, at \$10,313. Next lowest bids are as follows: Way & Callilli, Springfield, Mass., \$11,057; Framingham Contracting Co., Framingham, \$11,482.

Eveleth, Minn.—For paving two blocks on Roosevelt Ave. to Lawrence-McCann Co. at \$2.50 per sq. yd. Pavement is to be creosote blocks on concrete foundation.

Mankato, Minn.—To Otto Neitge, for laying tile and building of culverts on state rural highway No. 54, in Brown Co., at \$11,577.

St. Paul, Minn.—To Thornton Bros., St. Paul, Minn., for setting about 10 miles of concrete curb in St. Anthony Park at bid of \$22,000.

Chillicothe, Mo.—John F. Meek, contractor, has been awarded contract for paving 9th St., between Elm and Locust Sts., by City Council. Mr. Meek was lowest and successful bidder for the work. His bid was as follows: Paving, \$1.59; curbing, 35c. per lin. ft.; grading and excavating, 25c. per cu. yd.; oak headers, 40 per 1,000. The street is to be paved with brick.

Florence, Neb.—To Sam Viskovitch, Globe, Ariz., for 29,300 sq. ft. cement walk and 3,315 lin. ft. curb, at \$3,300. Other bidders as follows: C. W. Westall, Florence, Ariz., \$4,333; Steele & Woods, Phoenix, Ariz., \$5,764; Smith & Potteiger, Florence, Ariz., \$5,891; N. E. Carter, Tuscan, Ariz., \$6,324.

Omaha, Neb.—To E. A. Wickham & Co., city, for concrete paving on Pioneer trail, consisting of about 3,500 sq. yds., at \$1.44 per sq. yd.; broken stone, \$2.75 per cu. yd.; extra concrete, granite, \$11 per cu. yd.; lime stone, \$7.50 per cu. yd.; extra sand, \$1.50 per cu. yd.; extra grading, 27 cts. per cu. yd.; protection plate, extra 15 cts. per ft.; 8-in. drain tile, 28½ cts. per ft.

Elizabeth, N. J.—The W. L. Oaks Co., of Summit, was lowest bidder for contract to build culvert in Russell Pl., that town, and was awarded job by special committee of Board of Freeholders.

Hackensack, N. J.—To G. M. Brewster Co., contract for improvement of Terrace Ave., Essex St., to Hasbrouck Heights borough line, for \$29,072.

Paterson, N. J.—Contracts for macadamizing certain streets have been given as follows: To Philip Kramer—Montgomery Pl., from Mercer St. to Graham Ave.; Fulton Pl., from Carroll St. to Graham Ave.; Sussex St., from Gould Ave. to Bloomfield Ave. To McKiernan & Bergin—Lawrence Pl., from Mercer St. to Graham Ave.; Franklin St., from Graham Ave. to the Susquehanna railroad; Atlantic St., from Bloomfield Ave. to Newark Ave.

Albany, N. Y.—Following are lowest bids by State Highway Commission, No. 55 Lancaster St., Albany, N. Y., for construction of public highways by State Aid on Oct. 15: Road No. 5518 (Cananda-Fillmore-Hume, Allegany Co., 4½ miles), Kennedy Cons. Co., Albany, N. Y., \$53,587. Road No. 1161 (Lestershire Village-Main St., Broome Co., 0.38 miles),

C. D. Dean, Albany, N. Y., \$24,789. Road No. 5243-B (Sanitaria Springs-Harpursville, Broome Co., 4.29 miles), Lane Cons. Corporation, Meriden, Conn., \$22,879. Road No. 5243-A (Sanitaria Springs-Harpursville, Broome Co., 4.67 miles), Jos. Walker Cons. Co., Albany, N. Y., \$64,894. Road No. 806 (South New Berlin-New Berlin, Pt. 2, Chenango Co., 5.63 miles), Jos. Walker Cons. Co., Albany, N. Y., \$94,025. Road No. 1075 (Hartford Mills-Dryden, Pt. 1, Cortland Co., 5.25 miles), Richard Hopkins, Troy, N. Y., \$45,449. Road No. 5472 (Truxton-De Ruyter, Pt. 3, Cortland Co., 2.11 miles), Crowe & Walsh, Pittsfield, Mass., \$26,473. Road No. 822 (Cadyville-Moffitsville, Clinton Co., 6.72 miles), Richard Hopkins, Troy, N. Y., \$64,195. Road No. 1037-A (Gowanda Village, Erie Co., 0.39 miles), Fugate & Hutchinson, Olean, N. Y., \$20,370. Road No. 985-A (Tupper Lake-Moody, Franklin Co., 0.92 miles), John F. Lewis, Albany, N. Y., \$14,426. Road No. 618 (Mecco-Caruga Lake, Fulton Co., 9.26 miles), Lane Cons. Corporation, Meriden, Conn., \$91,707. Road No. 5514 (Wells-Speculator, Pt. 1, Hamilton Co., 6.98 miles), Parker Hassam Paving Co., Worcester, Mass., \$101,310. Road No. 5513 (Ilion Village-Otsego St., Herkimer Co., 0.90 miles), Harry W. Roberts & Co., Utica, N. Y., \$45,352. Road No. 5411 (West Creek, Herkimer Co., 0.09 miles), Crowe & Walsh, Pittsfield, Mass., \$5,542. Road No. 472 (Columbia-Mohawk, Herkimer Co., 6.15 miles), State Highway Cons. Co., Beacon, N. Y., \$63,838. Road No. 5515 (De Ruyter Village-Cortland and Utica Sts., Madison Co., 0.81 miles), Crowe & Walsh, Pittsfield, Mass., \$9,574. Road No. 1201 (Huntington Town Line-Farmingdale, Pt. 2, Nassau Co., 0.61 miles), David Falconer Contg. Co., Long Island City, \$6,822. Road No. 5445 (Milford-Cooperstown, Otsego Co., 7.75 miles), Caranea Cons. Co., Troy, N. Y., \$91,076. Road No. 1157 (Durhamville-Rome, Oneida Co., 13.73 miles), Jos. Walker Cons. Co., Albany, N. Y., \$121,161. Road No. 5516 (Lafayette-Tully, Onondaga Co., 8.73 miles), Dale Engineering Co., Utica, N. Y., \$127,625. Road No. 1200 (Cohocton-Wayland, Pt. 2, Steuben Co., 3.38 miles), Atlanta Cons. Co., Atlanta, N. Y., \$40,099. Road No. 5253-B (Jasper-Addison, Steuben Co., 5.71 miles), Kennedy Cons. Co., Albany, N. Y., \$23,764. Road No. 5510 (Bloomingburg-Monticello, Pt. 1, Sullivan Co., 8.18 miles), Henry McNamee, Eddyville, N. Y., \$102,754. Road No. 5517 (Beth-Hammondsport, Pt. 1, Steuben Co., 4.27 miles), McLaughlin & Burchill, Syracuse, N. Y., \$45,505. Road No. 5350 (Bath Village, Steuben Co., 1.89 miles), Jos. Walker Cons. Co., Albany, N. Y., \$68,294. Road No. 1211 (Waterloo Village, Seneca Co., 1.49 miles), Patrick D. Conley, Ithaca, N. Y., \$69,511. Road No. 1189 (Enfield Falls-Enfield Center, Tompkins Co., 6.34 miles), Wm. Hazzard, Trumansburg, N. Y., \$60,941. Road No. 5364-A (Ossining-Croton River, Westchester Co., 1.68 miles), Alex. Rohan, Haverstraw, N. Y., \$20,269. Road No. 1210 (Penn Yan-Branchfort, Pt. 1, Yates Co., 6.00 miles), Chas. M. Kelley, Penn Yan, N. Y., \$75,706.

New York, N. Y.—To Asphalt Construction Co., 137th St. and Medina Ave., city, at \$3,330, for paving of Kelly St. with sheet asphalt.

Schenectady, N. Y.—For sidewalk in Backus St. following bids were received: P. Camillo & Co., 10c. per ft.; A. D. Lewis, 9½c.; T. R. Crane, 9c. Contract went to Mr. Crane, the lowest bidder.

Napoleon, O.—To Johnson & Ritz, Perry St., city, at \$14,700, for paving of Main St. with vitrified brick.

Sandusky, O.—By County Commissioners to E. J. Walters for building strip of pike on Sandusky-Clyde Rd.

Springfield, O.—To Hannigan Bros., contract for paving alley east of Main St.

Springfield, O.—City Manager Ashburner has closed final contract with Elgin Motor Sweeper Co., of Elgin, Ill., for purchase by city of new motor sweeper which has been on trial in street cleaning department for last 90 days.

St. Helens, Ore.—To Mills-Ernstrom Co., Vernonia, at \$21,816, for construction of the Pittsburgh-St. Helens Road.

Philadelphia, Pa.—Contracts for street work to value of \$131,181 have been awarded by Chief Connell. The Eastern Paving Co., 1416 S. Penn Sq., and the Barber Asphalt Co., Land Title Bldg., divided asphalt paving contracts to value of \$50,495; the Eastern got another contract for resurfacing, \$548,50; Barber Co., wood block paving, \$3,601; the Eastern Co. shared with D. W. Anders a contract for resurfacing country roads, \$6,-

579. The McNichol Paving & Construction Co., 1923 Cherry St., was awarded vitrified block paving, \$17,632; J. Joseph McHugh and Philadelphia Paving Co., \$10,614, for granite block paving, and grading contracts aggregating \$41,709.31 were divided among J. Joseph McHugh, James Irvin, P. J. Snyder & Co., John Devlin, Jr., Thomas O'Connor, O'Neil Co., F. Mark Contracting Co., J. D. Dorney, T. Classby & Son and George Moerhle.

Newport, R. I.—For laying of about 2,000 sq. yds. granolithic sidewalk to Hector M. Henerey at \$1.04 per sq. yd.

Mitchell, S. D.—By Commissioners of Davison Co., to the Pioneer Bridge Co., city, for grading and improving highway in Beulah Twp.

Yankton, S. D.—To M. C. Flynn Paving Co., Sioux City, for paving at \$1.45 per sq. yd. and to Hanlon & Oakes for curbing at 38 cts. per cu. ft. Other bidders on paving as follows: Monarch Engineering Co., Falls City, Neb., at \$1.58½ per sq. yd.; McLaughlin & Sons, Red Oak, Ia., at \$1.54; Hanlon & Oakes, Sioux City, Ia., \$1.52; C. H. Atkinson, Watertown, S. D., \$1.62; Shugart & Munson, Nevada, Ia., \$1.52½.

El Paso, Tex.—Contract for 3,500 tons of crushed rock to be used for resurfacing county road from a point near viaduct to New Mexico state line, has been awarded to Dudley & Orr, local contractors.

El Paso, Tex.—For paving North Florence St. to Southwestern Paving Co.

Salt Lake City, Utah.—Tabulation of bids by city engineer indicates that P. J. Moran, Salt Lake City, has won contract for bitulithic paving on Emerson Ave. and other streets in that district with bid of \$14,380.14. Only other bid on this work was that of Strange & Maguire, which was \$14,608.90. Contract for resurfacing 6th East probably will go to J. W. Mellen on bid of \$15,325.18. Other bids were: Strange & Maguire, \$17,505.08; P. J. Moran, \$16,760.63. Green Construction Co. is low bidder on sidewalk extension No. 175 with bid of \$3,043.18. Other bids were: Smith & Spragins, \$4,035.23; H. G. Gilkerson, \$3,386.14; Parrott Bros., \$3,305.04; Mullins & Palm, bid incomplete.

Seattle, Wash.—For permanent highway No. 8, contract has been awarded to Chas. C. Crane at \$3,800.

Seattle, Wash.—For improvement of 14th Ave South to Des Moines Ave., to Henry Bros. at \$28,938.53.

Oshkosh, Wis.—To J. A. Nemitz for cement walk on Otter St. side of court house grounds at 10 cts per sq. ft. Other bidders as follows: Fred Schoenick, 11½ cts. a sq. ft.; H. H. Fuhs, 12½ cts.; Elmer & Klein, 10 cts.; Fred Coryall, 12 cts.

Menomonic, Wis.—To R. R. Bullard, Amy, Wis., for about 9,000 ft., 9 ft. wide, of grading and surfacing on state highway with shale macadam. Excavation, 25 cts.; culverts, \$6.50 per cu. yd.; surfacing, 26.5 cts. and 22.5 per cu. yd.

SEWERAGE

Oakland, Cal.—Resolution has been adopted for construction of sewer in 59th St. between Golden Gate Ave. and Maria Way.

Bridgeport, Conn.—Reports of Paving and Sewer Commission for construction of five sewers has been accepted by Board of Aldermen. Estimated cost, \$12,000.

St. Augustine, Fla.—See "Miscellaneous."

Kendallville, Ind.—Ordinance has been passed providing \$3,000 for storm sewer in S. Main St.

Charles City, Ia.—The Hart-Parr Co. has filed a petition asking that intake be installed to connect with Mack St. sewer, at or near northwest corner of lot 39 in block 137. Lanes addition. Petition has been referred to street committee.

Leavenworth, Kan.—Ordinance has been passed providing for construction of 8-in. sanitary sewer, beginning at point in street immediately north of Terminal Freight Depot, and south of Lot 21, Block H, Rankins Subdivision, extending in easterly direction along said street north of Terminal Freight Depot to 7th St., thence in northerly direction along 7th St. to east and west alley between Cherokee and Delaware Sts. and connecting with present sewer in center of said east and west alley between Cherokee and Delaware St.

Lexington, Ky.—Resolutions have been adopted for construction of sanitary sewers on various streets.

Haverhill, Mass.—Residents and property owners on 16th Ave. are conducting campaign for acceptance of street and that sewer be laid in that thoroughfare.

Duluth, Minn.—Resolutions have been adopted for construction of sewers in various streets.

Camden, N. J.—Council's Street Committee has decided to open bids on November 20 for construction of system of sewers in Rosedale section of city that will require year to complete and which will drain that part of city absolutely. These sewers will begin at 20th and Federal Sts. and run to Boyd and on Boyd from 20th St. to Westminster Ave., on Berkley from Boyd to Morse to Marlton Ave., to Midvale Ave., to Berkley St., to Gordon, to Eva, to Hillside, to Ellis, to Fountain, to Waldorf, to Berwood, to Highland and to 36th St.

Dunellen, N. J.—By unanimous vote of full council chamber it was ordered that law and ordinance committee draw ordinance covering laying of surface drainage system, the line of which is to extend from Washington Ave. along North Ave. to Madison Ave. and thence down Madison Ave. to Greenbrook.

Irvington, N. J.—Taking advantage of referendum feature of Walsh act for commission governed municipalities, Irvington Board of Commissioners has ordered special election to give voters opportunity to decide on proposed construction of big storm sewer there. Special election will be held Nov. 3 in conjunction with the general election.

New Brunswick, N. J.—Ordinance has been passed to issue bonds for payment by City of New Brunswick to Borough of Milltown, through which said borough water supply of City of New Brunswick flows, of portion of expense of construction of system of sewers in Borough of Milltown.

New Brunswick, N. J.—Owing to inadvertence in framing of ordinance by which Common Council sought to authorize issue of \$12,500 bonds to be used in paying portion of cost of Milltown's sewage disposal project, it has been found necessary for aldermen to do work all over again. New ordinance, providing for twelve bonds of \$1,000 each and one bond of \$500, has been introduced and passed on first and second reading.

Paterson, N. J.—It has been decided to give public notice that it is intention of board to construct sewer in Caldwell Ave., from Nagle St. to Dayton St., and in 6th Ave. from East 24th to East 25th St.

Paterson, N. J.—Ordinance has been adopted providing for construction of sewers in certain streets and avenues in city. T. S. Standeven is City Clerk.

Paterson, N. J.—Ordinance providing for construction of sewers in streets named below finally passed: 11th Ave., North 4th St., East 25th St., 21st Ave., and Paxton St.

Perth Amboy, N. J.—Resolution has been adopted authorizing committee on streets and sewers to proceed with installation of sewer connections in New Brunswick Ave. between Washington and Mitchell Sts., and to have city clerk request water department to install water connections in same section of thoroughfare, preparatory to paving it.

Pitman, N. J.—Plans are being considered for municipal sewerage system.

Rahway, N. J.—Citizens have indicated that they are in favor of plan to erect a sewage-disposal plant as soon as possible.

Red Bank, N. J.—Bids will be advertised for cleaning of septic tank.

Trenton, N. J.—Ordinance has been passed authorizing construction of sewer No. 607 in Lawton alley. Frank Thompson is City Clerk.

Auburn, N. Y.—Sewers will be built in Arlington, Lexington, Kensington and Englewood Aves., parallel thoroughfares on the West Auburn building tract; North St., from Standart Ave. to York St.; York St. west to Willey St. and Van Anden St. from State St. to No. 65 Van Anden St. Superintendent of Streets E. C. Soper will direct this work.

Brooklyn, N. Y.—Board of Estimate has made provision for new sewers for New Lots district.

Great Neck, L. I., N. Y.—Sewer district will be established shortly.

Niagara Falls, N. Y.—Board has approved request for sewer in 24th St., 120 ft. south of Allen Ave. Engineer's estimate for work is \$225.

Syracuse, N. Y.—Ordinances have been adopted ordering a number of improvements and fixing their cost as follows: Sewer in Stuart Ave., \$600; sewer in Chemung St. and Cuykendall Ave., \$700; sewer in Chrysler St., \$425; sewer in West Castle St., \$350; sewer in West Brighton Ave., \$325; sewer in West Brighton Ave. and other streets, \$1,450; sewer in Loomis Ave., \$2,400.

Cincinnati, O.—Ordinances have been passed to proceed with improvement of Waverly Ave., between Blaine Rd., and the existing sewer west of Blaine Rd., by constructing sewers therein and furnishing materials as follows: 310 lin. ft. 12-in. pipe sewer, 25 Y branches, 1 manhole (round) for pipe sewer and 1 cu. yd. of concrete. For improvement of Ann St., from existing sewer to W. Plum St., and W. Plum St., from Ann St. 130 ft. north, by constructing sewers therein and furnishing materials as follows: 300 lin. ft. 12-in. vitrified pipe sewer, 20 T branches, 2 manholes (standard) on pipe sewer, 1 cu. yd. concrete masonry, 7 cu. yds. special excavation, converting existing manholes to drop manholes, and for improvement of Elmore St., from Spaeth St. to Colerain Ave., by constructing sewers therein and furnishing materials as follows: 385 lin. ft. of vitrified pipe sewer complete, 30 lin. ft. of T branches, 40 lin. ft. 12-in. vitrified pipe inlet connections, 2 standard manholes on pipe sewer, 2 street inlets complete, 1 cu. yd. of brick masonry. Fred Schneller is Clerk.

Conneaut, O.—Bids will be received until noon, Nov. 14, at office of Director of Public Service for construction of sewerage system and sewage treatment plant for Grandview Ave. allotment. S. W. Mahaffey is Director of Public Service.

Dayton, O.—Bids will be received at 10 a. m., Nov. 10, by County Commissioners, for purchase of \$1,100 ditch bonds. W. A. Aszling is Secretary.

Niles, O.—Resolution has been adopted for the construction of storm water sewer in sewer district No. 1.

Piqua, O.—Resolution which calls for building of storm sewer in Dist. No. 1 has been placed upon its final passage.

Downington, Pa.—Election will be held Nov. 3 for voting on bond issue of \$75,000 for sewer improvement.

Pittsburgh, Pa.—See "Miscellaneous."

South Bethlehem, Pa.—Ordinance providing for extension of sewers on Mechanic street and Bishopthorpe St. has passed third reading.

Williamsport, Pa.—Ordinance No. 92, providing for construction of house sewer in Prospect Ave., between Newberry and Grand Sts., has passed first and second readings.

Woodlawn, Pa.—Woodlawn borough council has received permit for certain new sewers to be put in immediately and matter has been presented to council. Borough will be required to prepare complete plan of sewer system including sewage disposal plant and submit it on or before July 1, 1915. Sewage cannot longer be emptied into state waters.

Sioux Falls, S. D.—City auditor has been authorized to advertise for bids on sewer in the alley of Block 1, Phillips addition, First Ave. between 12th and 15th Sts., 9th St. and between Grange and West Aves., Menlo between 18th and 21st Sts., 10th Ave. between 22d and 21st Sts., and 10th St. between Indiana and Cliff Aves.

Dallas, Tex.—Final plans have been presented to W. M. Holland, Mayor, by Jas. H. Fuertes, of New York, for proposed sewage-disposal plant. Bids will be received Nov. 11 on first two of seven units of proposed system.

Sheboygan, Wis.—Board of Public Works is authorized and directed to build 10-in. vitrified pipe sewer, with two manholes, in Union Ave. from South 11th St. to South 12th St., according to general sewer plan.

Sheboygan, Wis.—Board of Public Works recommends construction of pipe sewer in Mehrtens Ave., about 200 lin. ft. 12-in. pipe sewer and two manholes.

CONTRACTS AWARDED.

Bakersfield, Cal.—For constructing sewers in Dists. 20 and 21, to E. C. Hamlin, of San Jose. A. G. Jones is City Clerk.

South Whitley, Ind.—By Town Board, to David A. Walter, at \$2,300, for 1,915 ft. sewerage in Webster Addition.

South Bend, Ind.—Contract for pipe sewers on Parry, Francis, Eddy and Division Sts. has been awarded to Hoban & Roach for \$1,390.93 by Board of Works.

Atlantic, Ia.—To C. B. Reynolds, Council Bluffs, Ia., for sanitary sewers, at \$5,024. Other bidders as follows: C. A. Camens, Harlan, Ia.; Inter-Mountain Bridge & Construction Co., Topeka, Kan.; McLaughlin & Son, Red Oak, Ia.; Briggs & Corey, Shenandoah, Ia.

Burlington, Ia.—For construction of Louisa St. sewer and branches, to Holmes & Walter Construction Co., at 90 cts. for vitrified pipe and 85 cts. for concrete.

Council Bluffs, Ia.—Bids for construction of sewer on 2d Ave., between 28th and 31st Sts., have been read and contract awarded to E. A. Wickham, whose bid was: 12-in. pipe, \$1.30; 10-in. pipe, 98c.; 8-in. pipe, 85c.; 6-in. pipe, 65c.; manholes, \$39.50.

Park Rapids, Minn.—To Grand Forks Cement Co. for sewer system at \$5,495. Other bidders as follows: Hugh T. Bosworth, \$5,750; Black Hawk Cement Co., \$5,703; Wm. C. Fraser, St. Paul, \$5,650.

Proctor, Minn.—To Whitney Bros.-Stack Co., Duluth, at about \$43,013, for construction of sewer system and sewage disposal plant.

Redwood Falls, Minn.—By Commissioners of Redwood County, to P. B. Jennings, Wanda, Minn., at \$9,550, for digging and constructing Judicial Ditch No. 13.

St. Paul, Minn.—To O'Neil & Preston, St. Paul, Minn., contract, at \$1,563, for sewer on Wentworth St.

Lewistown, Mont.—For construction of four sewers to L. W. Schruth.

Columbus, Neb.—For sewer work to Offermon Construction Co., South Omaha, Neb., at \$21,892. Others bidders were: Meyer & Luers, Columbus, \$21,375; Phelan & Shirley Co., Omaha, \$24,447; Ed. Tyner, Kansas City, \$27,700; Inter Mountain Bridge Co., Tecumseh, \$27,462; James Jensen, Omaha, \$25,129; A. D. Sears, Fremont, \$28,935; McCoy & Taylor, Kansas City, \$22,486; Briggs & Corey, Shenandoah, \$27,200; Wood, Bancroft & Doty, David City, \$26,496; Elkhorn Construction Co., Fremont, \$27,585; Alamo Engineering & Supply Co., Omaha, \$30,596; E. P. Donahue & Co., Omaha, \$25,834; Abel & Roberts, Lincoln, \$27,916.

Newark, N. J.—By Board of Street and Water Commissioners, to Cardell & Romano, for sewer in Branford Pl.

Newburgh, N. Y.—For construction of two sewers, to Michael & Charles Spino, of Beacon, at \$916.55 for Centre St. job and \$2,148.35 for sewer on Ann St.

Rochester, N. Y.—Contract for sewer in Conklin St. has been awarded to John Petrossi at \$1,300.55.

Saratoga Springs, N. Y.—By Sewer, Water and Street Commission, to Henry E. Ryall, at \$2,373.80, for 6-in. terra cotta sewers.

Schenectady, N. Y.—Pratt, Reed & Phillips was only bidder for motors to be used in operating pumps at sewage plant and therefore contract was awarded to that concern for \$3,643.

Bismarck, N. D.—Bids have been opened for construction of sewers on 1st St. from Ave. B to Ave. C, etc., and contract awarded to Grambs & Peet Co. at 67 cts. for 8-in. pipe in place and \$40 each for manholes.

Hubbard, O.—By Village Council, to Turner-Olson Contracting Co., Youngstown, O., at \$3,443, for storm sewers, with branches and catchbasins.

Eugene, Ore.—K. L. Hall has been awarded contract to reconstruct old sewer in alley between Olive and Charnelton Sts. and extending from 6th Ave. west to 11th Ave. west for \$2,351.31, and Ole Soleim was given contract for other two which are as follows: In alley between 9th and 10th Aves. extending from Van Buren St. to present terminus of sewer near Lincoln school on Monroe St., \$706.25; in alley between 10th and 11th Aves. west, extending from Polk St. to Almaden St., \$540.80.

Portland, Ore.—To Geo. Gordon, at \$6,184, for constructing sewers in East 74th St. and Thoburn Ave. district.

Beaver Falls, Pa.—Resolution confirming transfer of contract for construction of 24-in. storm sewer in 5th Ave. from A. L. Funkhouser to the Pietro Paving & Constructing Co. has been passed.

Keewaunee, Wis.—To George M. Mulholland, Keewaunee, Wis., for construction of additional sewers, at cost of \$5,000.

WATER SUPPLY

Susanville, Cal.—Citizens will shortly vote on \$60,000 bond issue for waterworks and other improvements.

Peoria, Ill.—Plan is being considered for improving waterway connections with this city and Chicago. The proposed improvement in waterway from Chicago to this city would cost approximately \$3,000,000.

Indianapolis, Ind.—City of Bloomington, through John G. Harris, has petitioned Public Service Commission for authority to issue \$15,000 of 5 per cent. bonds. Money is to be used in completing dam at Leonard Spring, Monroe County, by which temporary improvement in water supply at Bloomington would be accomplished.

Des Moines, Ia.—Election will be held Nov. 3 for voting on bond issue of \$2,450,000 for water works.

Humeston, Ia.—On Nov. 5 citizens will vote on additional \$10,000 bond issue to complete waterworks system.

Mineral, Kan.—Water for private consumption and city purposes will soon be supplied by city itself if present arrangements go through. Estimates and plans for deep well and plant have been drawn up by state expert at direction of City Council, and are ready for submission to State Board of Public Utilities.

Louisville, Ky.—Number of fire hydrants will be erected.

Winchester, Ky.—City Council has passed ordinance providing that water works question shall be submitted to vote of people at November election. Question to be voted on is whether or not city of Winchester shall be authorized to let contract which shall provide that water mains be extended to Kentucky River, thereby incurring yearly indebtedness not to exceed \$10,000.

Hancock, Md.—Construction of water works to cost \$20,000, to include about 15,000 ft. 4, 6 and 8-in. c. i. pipe, 22 hydrants, deep well pump of 150 gallons per minute, 15-h.p. electric motor, 300,000-gallon earth reservoir, brick pump house, is being considered. Engineer is Alfred M. Quick, 707 Munsey Bldg., Baltimore.

Lawrence, Mass.—Town has voted to lay 300 ft. of water pipes on Orchard St. and on Plymouth St. Cost, \$600. Also 750 ft. of water main along Cornet rd.

Pittsfield, Mass.—An order for \$10,000 for extending water main from Pontoonuc Lake to Lanesboro line has been adopted.

Duluth, Minn.—Commissioner Leonidas Merritt has introduced ordinance at Council meeting appropriating \$8,000 from Utility Fund for purchase of c. i. pipe for water and gas mains.

Hallock, Minn.—Village Council is planning to extend mains of waterworks system, including two Watrous 8-ft. cover hydrants. A. M. Nelsstuen is Clerk.

Virginia, Minn.—For reason that members of water and light commission believe that they can purchase boilers cheaper by going right to factory and picking them out, all bids that were received for furnishing of two boilers, each of 175 horse power, to be used in auxiliary capacity at local plant, have been rejected and new bids will not be asked for. Members of the commission stated that all of bids were too high.

Gulfport, Miss.—City Engineer H. D. Shaw has prepared and is about to submit to Board of Mayor and Commissioners plans and specifications on various water works extensions decided on by board a few weeks ago. Mr. Shaw's plans cover extension of mains over total distance of about two miles, including installation of about 20 additional fire plugs. Bids for same will shortly be advertised.

Caruthersville, Mo.—Preliminary work has been made for proposed waterworks system. Proposition will be voted upon. Frank L. Wilcox, Syndicate Bldg., St. Louis, Mo., is Engineer.

Billings, Mont.—Submission by Water Committee of proposition that City Council readvertise for bids for purchase of Billings' \$450,000 water bond issue will probably be most important feature of next meeting of Aldermen.

Asbury Park, N. J.—City Council has formally authorized sale of \$50,000 water bonds to Sinking Fund Commission.

New Brunswick, N. J.—Erection of entire new dam, 600 ft. above present dam at Westons Mill's pumping station is being planned.

Perth Amboy, N. J.—See "Sewerage."

Perth Amboy, N. J.—Board of Water Commissioners have decided to invest \$25,000 in its water bonds dated Sept. 1.

Wildwood, N. J.—Erection of water plant is being planned by Commissioners for city at cost of \$250,000.

Albion, N. Y.—Board of Trustees is advertising bonds in sum of \$165,000 for purchase of water plant and establishment of municipal system.

Albany, N. Y.—The application of City of New York to impound water from Schoharie Creek and conduct it to City of New York through its new aqueduct has been granted by Conservation Commission. City will build large dam and reservoir at Prattsville and conserve all water in uppermost 228 square miles of the Schoharie watershed. Water will then be carried through tunnel 10 miles long, into Esopus watershed, through Bushnellville Creek to Esopus Creek and stored in Ashokan reservoir. City engineers stated that work of construction

will require eight years, and will cost \$14,000,000. Prattsville reservoir will be capable of supplying 200,000,000 gallons per day.

Cohoes, N. Y.—Proposed bond issue of \$60,000 is being discussed for water supply improvements.

Kenmore, O.—Citizens have voted to issue \$35,000 bonds to complete new water works.

Marion, O.—Citizens will vote in November on question of issuing \$500,000 in bonds for municipal-owned water-works.

Middletown, O.—Resolution is being considered by City Commission compelling installation of water meters by consumers.

Allentown, Pa.—Ordinance providing for laying of 12-in. water main on Tilghman St. from 16th to West has passed third reading.

Erie, Pa.—Board of Water Commissioners will extend 12-in. main in E. Buffalo road to connect with line in E. Lake road, and through Silliman Ave.

Hazleton, Pa.—Underwriters' Association has recommended improvements to water-works system.

Pittsburgh, Pa.—See "Miscellaneous."

Tamaqua, Pa.—Plans have been completed by Engineer John H. Lance, Wilkes-Barre, for construction of reservoir at Owl Creek; plans provide for dam of 151,000,000 gals. capacity; estimated cost, \$69,000.

Williamsport, Pa.—A reservoir with capacity of furnishing water for greater portion of eastern part of borough will be constructed this autumn or early winter on ground belonging to Walter E. Ritter, west of Market St. and North Mountain Ave., according to announcement.

Houston, Tex.—Estimates will be prepared of cost of extending salt water mains now located at 23d St. and Aves. A and B from Strand to Market St. and on Mechanic St. east and west to 21st and 25th Sts.

Rusk, Tex.—Bonds will be issued for extension of city water works.

Benwood, W. Va.—Bond issue of \$50,000 is being considered for installation of municipal water system.

Chehalis, Wash.—At City Commission meeting Mayor Coleman announced that it is proposed to spend additional \$19,000 extending gravity water distributing service to every part of city.

Seattle, Wash.—Plans have been approved for water mains in W. 57th St.

Sheboygan, Wis.—City water works will lay 12-in. water main in Calumet Plank Rd.

CONTRACTS AWARDED.

Grand Ridge, Ill.—To Thomas H. Woolcox, Oglesby, Ill., for installation of waterworks mains at cost of \$9,657.

Normal, Ill.—Board of Administration for state charitable institutions has let contracts for improvements in water system at Soldiers' Orphans' Home to following firms: The Rock Island Bridge & Iron Co. was awarded contract for building steel water tower which is to stand 100 ft. in air and hold 40,000 gals. of water; Frank Sullivan, of Bloomington, contract for laying a 6-in. water main to connect new tower with the pumping station.

New Castle, Ind.—By City Council, for construction of addition to building at water works, to Frank Bowyer at \$1,683.40.

Rockwell, Ia.—By Council to Blackhawk Construction Co., of Waterloo, for installing 13,000 ft. of water extensions and 29 new hydrants.

Gardiner, Me.—To Jas. H. Ferguson, of Dorchester, Mass., at \$47,000, for constructing covered slow sand filter, together with all piping, fixtures and appurtenances for Gardiner Water Dist., from plans of Arthur T. Safford, 66 Broadway, Lowell, Mass.

Chisholm, Minn.—To Pittsburgh Filter Mfg. Co., of Pittsburgh, Pa., for installation of filter plant in this city at \$18,351. Contract was let to Massillon Iron & Steel Co. for 70 tons of 6-in. bell and spigot cast-iron water pipe at \$25.65 per ton.

Chisholm, Minn.—To Massillon Iron & Steel Co., Massillon, O., for 70 tons 6-in. class B, bell and spigot cast-iron water pipe, per ton of 2,000 delivered railroad f. o. b. Chisholm, at \$25.65.

Duluth, Minn.—To Simon Johnson, contracts for laying water and gas mains in Woodland Ave.

Hibbing, Minn.—To Butler-Coon Contracting Co. for two miles of water mains, including erection of reservoir.

Riverhead, N. Y.—To Lincoln-Steele-Flemming Co., New York City, contract by Water Commissioners to lay mains, provide and install 105 fire hydrants, erect tower and tank, etc., for proposed municipal water plant at \$65,668.

Schenectady, N. Y.—Following bids have been opened: For water pipe and the laying of same in several streets—H. K. Corbin, \$2,458.50; T. R. Crane, \$2,520.50; Kalteaus & De Nallo, \$2,996.50; Kehoe & Bissett, \$2,801.50; John Allen, \$2,634.25; A. G. Davis, \$3,752.25. H. K. Corbin was given job.

Cleveland, O.—For furnishing pumping machinery for city water works, to Allis-Chalmers Mfg. Co., Milwaukee, Wis., at \$259,000.

Hubbard, O.—By Village Council, to Turner-Olson Co., Youngstown, O., at \$1,056, for water connections.

Batesville, S. C.—To R. L. Farmer, Springfield, S. C., for construction of 6-in. water main at \$0.62; hydrants, \$28 each; valves, \$15 each, and specials at \$0.03 per lb.

Aberdeen, S. D.—To Norbeck & Nicholson Co., Aberdeen, contract to sink artesian well, including test well.

Livingston, Tex.—For constructing water system, by city, to Browne & Wilder, Houston, at about \$25,000.

Seattle, Wash.—Lowest bid received for installing water mains in Hanford St. sheds was submitted from Rautman Plumbing & Heating Co., at \$15,300.

Wabeno, Wis.—For installing water system, to Lowenk & Chafee, Rhinelander, Wis.

LIGHTING AND POWER

Bridgeport, Conn.—Plans have nearly been completed for installation of "white way."

Victor, Ida.—Special election will be held Oct. 24 to vote on proposal to issue \$3,000 in bonds for installation of electrical distributing system.

Canton, Ill.—Opening of new Burlington passenger station between Elm and Chestnut Sts., in 4th Ave., has started movement for extension of ornamental lighting system from business district east on Elm St. to new terminal.

Normal, Ill.—New street lighting proposition is being considered.

Sabetha, Kan.—Electric Light Commissioners will shortly purchase ornamental lamp standards for lighting system on three blocks (six to each block). C. A. Darby is superintendent.

Pebble, Ky.—Proposal to establish municipal electric lighting plant has been voted on and carried.

Grand Rapids, Mich.—Preliminary steps have been taken for installation of ornamental lighting system on Eighth St. from Pere Marquette depot to Graham & Morton wharf, and on River Ave. from Seventh St. to 13th St.

Saginaw, Mich.—City Engineer H. H. Eymers has submitted plans and estimated cost of proposed municipal light plant to City Council. Cost, \$722,000.

Saginaw, Mich.—On Nov. 3, citizens will vote on construction of municipal electric light plant.

St. Clair, Mich.—City Council is discussing installation of ornamental street lighting system on Riverside Ave. Plans provide for 21 Cutter boulevard standards, for 5-lamp clusters, to be maintained by underground wires. W. M. Barron is Superintendent.

Mt. Morris, Mich.—Village Council is considering installation of electric lighting of streets.

Duluth, Minn.—The Hillside Commercial Club has taken steps for installation of ornamental street-lighting system on 4th St.

Burlington, N. J.—Burlington Council has passed ordinance providing for change from steam to electric power in operating pumps at drainage station, effecting saving of \$1,200 a year.

Butler, N. J.—New bids will be received for installation of electric light system.

Irvington, N. J.—Runyon & Carey, consulting engineers, Newark, are preparing plans for installation of municipal electric-lighting plant.

Corning, N. Y.—See "Miscellaneous."

Dunkirk, N. Y.—Board of Water and Light Commissioners is considering replacing carbon street lamps with incandescent lamps.

Oneida, N. Y.—City is discussing plans for installation of ornamental lighting system.

Otisville, N. Y.—Movement is on foot to have local streets lighted by electricity.

Watertown, N. Y.—Representatives of Watertown Electric Light & Power Co. are considering installing electric lights throughout the village. If necessary

number of taxpayers sanction street lighting proposition village will again have electric lights. Work of surveying territory included in limits of district to be lighted has been finished.

Gallon, O.—Council has transferred \$4,000 from electric light fund for purchase and installation of cluster lights on Main St. and on Market St.

Baker, Ore.—Definite announcement has been made by Mayor C. L. Palmer that he is in favor of proposal to extend city municipal power plant so as to provide for municipal lighting of homes and business houses in city, as well as to sell power for factory and other purposes.

Orangeburg, S. C.—City Council is considering plans for improvements to municipal electric light plant, including installation of additional battery of boilers, to cost about \$10,000.

Tacoma, Wash.—Ordinance has been passed to authorize Commissioner of Light and Water to advertise for bids and let contract for purchase of incandescent electric lamps to value of \$20,000, and making appropriation for same.

Niagara Falls, Ont., Can.—City Council will take action of plan of Alderman Ward, chairman of electric light committee, to install decorative street lighting systems in north end, center and the south end business sections. It is believed that plan will be favorably acted upon, and arrangements made to install lights as soon as possible. The nitrogen type of lamp is to be used. Fifty of them are to be installed at either end of city and 30 at center.

CONTRACTS AWARDED.

Chisholm, Minn.—To Mesaba Electrical Co. for single standard white way around playgrounds of Lincoln school, at \$5,400.

Neligh, Neb.—For street lighting, to S. F. Gilman, owner of local electric light plant. Work will start immediately.

Passaic, N. J.—Director of Parks and Public Property has recommended that contract be entered into with the Public Service Electric Co. and Public Service Gas Co. for lighting of streets and public parks for period of 5 years.

Sayreville, N. J.—At meeting of township committee contract for electric lighting was awarded to Sayreville Electric Light & Power Co. for term of five years at \$3,800 annually. This includes furnishing of power for 130 incandescent street lights. Contract for lighting supply of that section of the township known as Morgan Heights, for 18 lights was awarded to Middlesex and Monmouth E. L. H. and P. Co., their estimate being \$367.

Jet, Okla.—To J. A. Humrichous, of Carmen, Okla., contract to install electric-lighting system.

Abingdon, Va.—At special meeting of City Council Bristol Gas & Electric Co. was granted 30-year franchise to furnish day and night current for lights and power in town of Abingdon, franchise having been advertised for sale. Contract calls for system to be completed in 18 months.

FIRE EQUIPMENT

Fresno, Cal.—Entire modernization of fire alarm telegraph system is under discussion.

San Francisco, Cal.—Secretary Kennedy has been authorized to advertise for bids for purchase of tractors, combination chemicals, gasoline pump engines and straight chemicals involving expenditure of about \$100,000. Plan of Commissioners is to substitute tractors for horses on old-type horse-drawn engines and other apparatus.

St. Augustine, Fla.—See "Miscellaneous."

Pontiac, Ill.—Motor apparatus may be purchased shortly.

Council Bluffs, Ia.—Purchase of auto car for fire chief is being considered.

Emporia, Kan.—Purchase of motor apparatus is under consideration.

Hagerstown, Md.—Mayor and Junior Fire Co. are considering purchase of truck or tractor.

Haverhill, Mass.—City of Haverhill will soon have motor pump truck in commission for use in fire department if Fire Chief John B. Gordon's advocacy of its necessity is heeded.

Methuen, Mass.—Fire engineers are asking for \$1,000 for repairs to fire station.

Salem, Mass.—William O. Arnold, chief of Salem Fire Department, has suggested to city directors that another motor pumping engine is much to be preferred to tractor for one of present steamers.

Duluth, Minn.—Fire department will have new aerial motor truck about Nov. 15, at cost of \$12,000.

Keewatin, Minn.—Village clerk has issued calls for bids for 1,000 ft. of fire hose for village.

St. Paul, Minn.—Date of bids has been changed from Oct. 12, 10 a. m., to Nov. 2, 10 a. m., for purchase of 5,000 ft. of fire hose, 2½-in. with 5-ply capped ends. Aug. Hohenstein is Purchasing Agent.

Hasbrouck Heights, N. J.—Purchase of chemical fire engine is being discussed.

Hillside, N. J.—Erection of new fire house is being planned.

Lambertville, N. J.—City is planning to purchase tractors for four pieces of apparatus.

Spring Lake, N. J.—Construction of two fire cisterns is being planned.

Perth Amboy, N. J.—Purchase of 2,000 ft. of fire hose is being discussed.

Woodbury, N. J.—City will work for specifications for chemical auto and truck for Good Will Fire Co.

Fredonia, N. Y.—Movement has been started for purchase of motor fire apparatus.

Port Jervis, N. Y.—Fowler Hose Co. No. 3 has voted to purchase new motor truck.

Columbus, O.—Motor apparatus is under consideration by City Council. It is estimated that expenditure will be \$60,000.

Dayton, O.—In response to announced intentions of city to spend \$50,000 on motorization of fire department, City Purchasing Agent F. S. Smith has received requests for and sent out 58 sets of specifications for motor equipment which is to be procured for department. Bids are to be opened October 30.

Springfield, O.—Fire Chief S. F. Hunter recommends purchase of two motor pumpers and several thousand feet of hose.

Hazleton, Pa.—Underwriters' Association has recommended that more fire hose be purchased; that capacity of fire engines be brought up to standard of 3,000 gallons per minute; that boxes on alarm system be replaced with non-interfering boxes of platinum break contact type, and various other improvements.

Mt. Carmel, Pa.—Funds are being raised by the Atlas Fire Co. for purchase of new fire hose.

Ogden, Utah.—Purchase of additional chemical fire apparatus is being discussed.

Raymond, Wash.—City Council has decided to purchase automobile fire truck for this city and City Clerk has been instructed to call for bids on combination chemical and hose truck not to exceed 8,000 pounds loaded.

De Perre, Wis.—F. E. Daniel, assistant engineer, has made following recommendations: 500 ft. of extra 2½-in. cotton rubber-lined hose for each fire station, and to provide ladders of sufficient length to reach tops of tallest buildings.

Milwaukee, Wis.—Plans are being prepared for new fire station, to be built at 39th and Vilet Sts., to cost \$50,000.

Rhineland, Wis.—City will purchase combination chemical and hose wagon to cost about \$6,000.

CONTRACTS AWARDED.

Oakland, Cal.—By City Council contracts for new apparatus for fire department: J. W. Leavitt & Co., automobile, \$1,210; Front Drive Motor Co., tractor, \$4,850; F. R. Fageol, 2-ton chassis, \$2,750.

Shelbyville, Ind.—There were two bids for storage battery fire alarm system of four circuits and switchboard, to be installed complete in this city. The Gamewell Fire Alarm Telegraph Co., Newton Upper Falls, Mass., received contract at \$1,050. This includes state switchboard, storage battery and two miles of wire divided into four separate districts.

Shelbyville, Ind.—Doble & Griffey, agents for Fabric Fire Hose Co., Duane and Church Sts., New York City, have been awarded contract for the 1,000 ft. of fire hose. The brand of goods is known as the Warwick, weight from 50 to 55 pounds per section.

Atlantic City, N. J.—The Eureka Fire Hose Co., of New York has been awarded contract of supplying city with 3,000 ft. of fire hose at \$1.10 per foot.

BRIDGES

Sacramento, Cal.—Under recommendation of County Surveyor Drury Butler rip rap work will be substituted for sheet metal piling in foundation of 12th

St. bridge over American River. Matter has been referred to District Attorney and specifications will be changed. According to Butler the rip rap work will cost approximately \$6,000.

Colorado Springs, Colo.—Plans prepared by Marsh Engineering Co. for Bijou viaduct have been accepted by Council and clerk will advertise for two sets of bids.

Salerno, Fla.—See "Streets and Roads."

Chicago, Ill.—The Butte County Supervisors have ordered construction of trestle bridge on Reading Ave. over Mud Creek, three miles northwest of Chilo.

Ft. Wayne, Ind.—Plans are being considered for new Harrison St. bridge.

Fort Wayne, Ind.—Government Engineer Churchill has inspected A. W. Grosvenor's plans for new concrete bridge at Harrison St. and after careful consideration has approved them.

Indianapolis, Ind.—William T. Patten, county auditor, will receive bids Dec. 7 on \$450,000 of county bridge bonds to bear 4½ per cent. interest. There will be one issue of \$300,000 for bridge which is being built over White river at West Washington St. and issue of \$150,000 for bridge over White river at West New York St.

Sioux City, Ia.—Tentative plans have been completed by State Highway Engineer T. H. MacDonald for reinforced concrete bridge over Big Sioux River at North Riverside.

Holyoke, Mass.—Tentative sketch of bridge crossing dingle at Elmwood from Ross Ave. to Pine St. is being considered. Sketch and plans were purchased by Architect Howes.

Monterey, Mass.—Sum of \$1,500 has been voted for three new bridges.

Duluth, Minn.—Ordinance has been passed to appropriate from permanent improvement fund sum of \$4,000 for construction of bridge over Fischer's Creek on Vermilion road in Congdon Park.

Glendive, Mont.—As result of official action on part of Board of Commissioners, qualified voters will decide at ensuing election whether Dawson county shall sell bonds in sum of \$200,000, money to be used for construction of bridges over Yellowstone river at Marsh and Intake, also for placing of new span in big bridge which crosses river at this city. Amount specified is divided as follows: Sum of \$80,000 for proposed bridge at Marsh; \$70,000 for structure at Intake and \$50,000 to be used in repairing local bridge.

Niagara Falls, N. Y.—Board of Public Works has adopted resolution by Commissioner Colpoys asking that certificates of indebtedness for \$600 be issued to pay for service of expert engineer to make plans for construction of new concrete bridge over hydraulic canal in 2d St.

Poteau, Okla.—Election will be held Nov. 3 for voting on bond issue of \$60,000 for bridges.

Portland, Ore.—To place within reach of small investors the \$250,000 interstate bridge bond issue, the Multnomah County Interstate Bridge Commission has decided to advertise bonds for sale in denominations of \$1,000, \$500 and \$100. Bids for bonds will be received by County Clerk Coffey until 11 o'clock a. m., Nov. 9.

Sunbury, Pa.—Northumberland County Commissioners will construct 2 bridges over Shamokin Creek, one at Paxinos and one at Reed's Station.

Sunbury, Pa.—Upon petition of practically all of residents of Watsonstown, Judge Moser, in Northumberland County Courts, has issued mandamus upon County Commissioners directing them to join with commissioners of Union County in erection of bridge across Susquehanna, between that place and Allenwood. Commissioners assert such a structure will cost \$130,000.

Pittsburgh, Pa.—See "Miscellaneous."

Chattanooga, Tenn.—The Vang Construction Co., of Cumberland, Md., and the Toledo Bridge & Crane Co., of Toledo, O., have been found to be lowest bidders proposing to build the Market St. bridge. No contract has been awarded, commission having given consulting engineer, B. H. Davis, 24 hours in which to analyze bids submitted. Bids were submitted in unit form, that is, each contractor made special proposal for executing certain work and for furnishing certain parts of the bridge. Twenty-three unit bids were included in each proposal for concrete work, and few number for steel work. In all, there were approximately 500 unit bids, from which consulting engineer deduced aggregate results shown in following table. Bids on concrete piers and spans—Vang

Construction Co., \$342,491 (360 days); Mason & Hilton Co., \$374,069 (475 days); T. L. Eyre, \$387,961 (500 days); Missouri Valley Bridge & Iron Co., \$422,826 (540 days); M. C. Monday, \$426,381 (2 years); National Eng. & Foundation Co., \$427,736 (600 days); Thomas, Hannon & Hickkey, \$431,153 (540 days); Bates & Rogers Construction Co., \$431,618 (420 days); Thomas Sheahan, \$439,231 (Nov. 1, 1916); T. Stuart & Son Co., \$444,108 (450 days); George A. Fuller Co., \$459,795 (540 days); Hackedorn Construction Co., \$463,735 (600 days); Cleary & White, \$497,750 (365 days); Hardaway Construction Co., \$503,088 (20 months). Bids on steel center span—Toledo Bridge & Crane Co., fixed span \$68,127, bascule lift \$119,095; Strobel Steel & Construction Co., bascule lift, \$176,414; Pennsylvania Steel Co., fixed span \$76,649; bascule lift, \$124,210; Penn Bridge & Iron Co., fixed span \$73,399, bascule lift \$130,583; Milwaukee Bridge Co., fixed span \$73,021, bascule lift, \$129,945.

CONTRACTS AWARDED.

Rome, Ga.—Board of County Commissioners has awarded contract for new concrete bridge across Armuchee Creek to W. A. Hicks, of Birmingham, Ala. Sixteen bids were received ranging from successful one of \$5,396 to \$11,726. Bridge is to be 120 ft. in length with substantial pile-driven foundation.

Potomac, Ill.—By County Superintendent of Highways, at Danville, to East St. Louis Bridge Co., East St. Louis, at \$4,198, for constructing bridge across Blue Grass Creek at Wallace Chapel, about 2 miles west of Potomac.

Larned, Kan.—To Hammond Bridge Co., Kansas City, at \$6,300 for bridge at Nettleton.

New Orleans, La.—To C. W. J. Neville by City Commission for concrete and steel bridge over London Ave. Canal, at Gentilly Road, to cost \$7,995.

Boston, Mass.—To Coleman Bros., city, at \$44,013, for construction of reinforced concrete superstructure of Wellington bridge at Somerville and Medford.

Dedham, Mass.—By Commissioners of Norfolk County, for construction of concrete beam bridge between Norwood and Canton, to R. L. Whipple & Co., 306 Main St., Worcester, Mass., at \$8,837. Other bidders as follows: Hyde Park Construction Co., \$9,168; Moore & Co., \$9,750; Hancock Engineering Co., \$11,804; Walter Smith & Son, \$15,036; Thomas E. Ruggles Co., \$17,000.

Laurel, Miss.—By Board of Supervisors contract to Austin Brothers of Atlanta for erection of new steel bridge over Leaf river.

Contact, Mont.—By Commissioners of Park County, Livingston, contract for bridge over Salmon River, at Contact, to John Burke Co., Salt Lake City, Utah. Bridge will be 60 ft. long, of steel, with concrete abutments.

Camden, N. J.—By Bridge Commission, to Kelley-McFeeley Co., Camden, at \$14,150, for additional material in position at new Broadway. Bridge over Newton Creek between cities of Camden and Gloucester. Work consists of approximately 80,000 lbs. structural steel, 400 lbs. trunnion and pins, 4,000 lbs. trunnions, bearing sleeves, etc., 5,000 lbs. reinforcing steel, 2,500 lbs. wire mesh, 230 cu. yds. concrete counterweights, 148 lbs. per cu. ft., 655 sq. yds. repaving with Belgian block on 6-in. concrete base, etc. J. J. Albertson is County Engineer, Camden.

Marion, O.—For Retterer Bridge in Richland Township to Central Concrete & Construction Co., Canton, cost, \$7,967.

Marietta, O.—Three bridge contracts have been let by County Commissioners. Contract for Relief bridge in Waterford township was awarded to W. M. Evans, at his bid of \$636.24. Mr. Evans was also awarded contract for Hayward bridge in same township, his bid for that contract being \$742.35. Contract for Strauch bridge in Liberty township was awarded Lewis Gottherd, at his bid of \$5.90 per cu. yd. for concrete work.

Lewistown, Pa.—By Borough Council, for construction of bridge, 40-ft. span, 50 ft. wide, to G. A. & F. A. Wagman, Dallastown, Pa.; for stone arch bridge, \$4,100, or concrete, \$4,300.

Marcus Hook, Pa.—By Commissioners of Delaware County, Media, contract for bridge at Marcus Hook, to Ernest Palmer, Wallingford, Pa., at about \$4,000.

Philadelphia, Pa.—Richard Walsh's bid of \$26,549 was lowest submitted for building of steel bridge, incased in concrete, on line of Glenwood Ave., over Philadelphia & Reading Co.'s Richmond branch. The bridge will be 70 ft. in length and 60 ft. in width.

New Brunswick, N. J.—By Board of Chosen Freeholders of Middlesex County for construction of bridge on Perth Amboy-Metuchen Rd. to Joseph McEwen, Jr.

Cameron, Tex.—For constructing bridges in Road Dist. No. 2 by Comrs. Court to Austin Bros., Dallas, at \$11,366.

Hondo, Tex.—The Commissioners' Court has awarded contract for bridge over Hondo River to Uneeda Bridge Co., of Austin, for \$5,500.

Colfax, Wash.—For constructing concrete arch bridge for Comrs. Whitman Co., to Chas. C. Huber, Central Bldg., Seattle, at \$6,494.

MISCELLANEOUS

Sacramento, Cal.—State will be asked at meeting of State Advisory Board of the Department of Engineering to assist City of Sacramento in paying for some levee work south of Y St. Work contemplated will cost about \$12,000, according to Commissioner Thomas Coulter, and State will be asked to pay city's portion of this, about \$5,000. The Southern Pacific Co. is going to do the rest.

Sacramento, Cal.—Contract of A. Meister & Sons for construction of motor ambulance for County Hospital for \$4,500 has been referred to District Attorney.

San Bernardino, Cal.—By vote of better than four to one, possibly as great as four and a half to one, \$150,000 has been voted for new county hospital and grounds.

San Francisco, Cal.—Two hundred street signs, similar to those erected by Downtown Association, have been ordered put up in district bounded by Market, Powell, Sutter, Kearny and California Sts., and on Market St., from 9th St. to the Embarcadero.

San Francisco, Cal.—Hans Pederson's bid for construction of Twin Peaks tunnel has been rejected by Board of Works because it was not made out in exact accordance with form provided by Board. The Board has called for new bids, to be submitted Oct. 28.

Bridgeport, Conn.—Installation of municipal ice plant is being planned.

Washington, D. C.—A civil engineer in South America reports to American consular officer that he has been representing European houses dealing in locomotives, boilers, etc., cast-iron tubing, hydraulic and vacuum pumps, metallic irons, bridges, turntables, steam dredges, dump boats, explosives, wagons, coaches for railways, rails, bolts and rivets, automobiles and cycles for railway inspection service, wireless telegraph apparatus, etc. He now wishes to communicate with representative American manufacturers of similar articles. References are given. Correspondence should be, preferably, in Spanish or French. Weights, dimensions, capacities, etc., should be quoted in the metric system. No. 14093, Bureau of Manufactures.

Washington, D. C.—The Bureau of Foreign and Domestic Commerce is in receipt of request from foreign consular officer resident in United States for names and addresses of American manufacturers of low-priced automobiles and motor cycles. No. 14,139, Bureau of Manufactures.

St. Augustine, Fla.—Municipal bonds in sum of \$115,000 have been bought by banks of Miami, and municipal improvements will continue. The bonds sold include \$45,000 docks, \$10,000 street improvements, \$10,000 fire department, and \$50,000 sewers.

Augusta, Ga.—City Council has voted unanimously in favor of ordinance to authorize advertising of bids for \$250,000 city of Augusta flood protection bonds, same to be opened Nov. 12 at 12 o'clock noon.

Canton, Ill.—Extension of park system by establishing park east of Burlington depot between Elm and Chestnut Sts. is being considered.

Quincy, Ill.—By unanimous vote, Board of Public Works has been instructed to advertise for bids and sign contract for paving of levee, work to start from foot of Hampshire St. and extend west, at width of 66 ft., this year, as far as city's funds will permit.

Hagerstown, Ind.—At meeting of Board of Street Commissioners appropriation of \$2,000 for installation of police call system was made.

Kendallville, Ind.—Ordinance has been passed providing \$40,000 for equipment and furnishing of city hall.

Portland, Ind.—Plans for dredging of S. Ramona River through this city have been ordered by City Council and con-

tract for work will be awarded within next three or four weeks, looking to make stream more sanitary and at same time provide better protection against floods.

Clarinda, Ia.—At general election on Nov. 3 voters of Page county will have submitted to them three bond issues, aggregating sum of \$100,000, to provide funds for erection of new county home for poor in city, a county hospital at Shenandoah, and to take care of liquidation of \$60,000 overdraft in county bridge fund occasioned by big drainage project in this county, which necessitated practical rebuilding of number of bridges throughout new drainage district.

Glenwood, Ia.—Election will be held Nov. 3 for voting on bond issue of \$10,000 for county jail.

Muscatine, Ia.—Plan to permanently improve Muscatine levee has received endorsement of Muscatine levee commission. City Engineer Young is to be instructed to prepare plans and to gather other data which may aid commission in its work.

Salina, Kan.—City is to take action to prevent washing away of Oakdale Drive and preserve roadway into Oakdale Park. Work would include stone wall under Walnut St. bridge, extending to south. Also line of piling in river extending south on line with Park Place. Bids on work are to be received shortly.

Owensboro, Ky.—Citizens of Owensboro will vote on \$60,000 bond issue at November election to be used in erection of a city hall. Present city hall is not adequate for all of city offices.

Alexandria, La.—A meeting of Red River, Atchafalava and Bayou Boeuf Levee Board has been held in this city and resolution adopted by that body authorizing president to have bonds recently issued by board engraved. Issue is for \$500,000, and when work of engraving has been completed they will be sold and funds derived therefrom devoted to levee and drainage work in district. This bond issue was authorized by Legislature.

Hagerstown, Md.—City will install police call system to cost \$2,000.

Haverhill, Mass.—Plans have been made to reconstruct hospital out of children's home building on Main St. Cost about \$20,000.

Holyoke, Mass.—The Mt. Tom Reservation Commission has accepted plans for ornamental gateway to reservation to cost about \$800, which will be erected at Smith's Ferry.

Medford, Mass.—E. H. Rollins & Sons have purchased \$48,000 of city of Medford, Mass., 4½ per cent. serial bonds, issued for various municipal improvements.

Kalamazoo, Mich.—Sum of \$12,000 has been appropriated for repairs to county jail.

Newark, N. J.—Essex County Park Commission will erect \$30,000 grand stand.

Passaic, N. J.—Park Commission is placing development of First, Second and Third Ward Parks.

Trenton, N. J.—Ordinance has been passed authorizing bond issue for harbor improvements. Frank Thompson is City Clerk.

Cornwall, N. Y.—Common Council has adopted budget calling for appropriations totaling \$92,000. \$75,000 of which would be raised by tax. This is largest budget in history of city, and it will have to be submitted to voters at the November election. It includes appropriations for ornamental lighting system for Market St. and automobile ambulance and police patrol, and to meet a \$9,000 deficit in the Water Department.

Dunkirk, N. Y.—Plans prepared by City Engineer William H. Shelton for public wharf at foot of Central Ave. have been formally submitted to Common Council and approved and accepted.

Dunkirk, N. Y.—Plans are being considered for public clock.

Great Neck, L. I., N. Y.—See "Streets and Roads."

Wilson, N. Y.—At coming election question of raising \$1,185 for purchase of new stone crusher will be voted on.

Kinston, N. C.—Bond issue of \$100,000 has been sold by city of Kinston to A. B. Leach & Co., of New York and Chicago, at par and accrued interest.

Cincinnati, O.—Chairman Martin of Council Committee on Streets and Parks has said that committee will recommend at next session the placing of two comfort stations, one to be at or near

Knowlton's corner and the other near the intersection of Central, Harrison and Colerain Aves.

Beaver Falls, Pa.—City Council has authorized purchase of motor car for use of Fire Chief. Cost \$550.

Philadelphia, Pa.—Mayor Blankenburg has signed ordinance authorizing Pennsylvania Railroad Co. to elevate its tracks on Lehigh Ave., between Trenton Ave. and Richmond St. and along Richmond St. to Cumberland St. Work will cost approximately \$400,000, city co-operating in the work.

Philadelphia, Pa.—Radical changes are to be made in form of street cleaning contracts for next year. Director Cooke is now advertising for bids, to be opened on Nov. 6, which will provide for separate bids for cleaning streets, collecting ashes and collection of waste. Another feature will be receipt of bids for cleaning country roads.

Pittsburgh, Pa.—At conference between Mayor J. G. Armstrong and City Council it was decided to attempt issue of \$2,750,000 of bonds by Councilmanic action. Ordinances will be introduced within next two weeks. The list which was approved is as follows: Nine-Mile Run sewer, \$201,000; improvement of West Liberty Ave. (including sewer), \$350,000; improvement of Ohio St., from Heinz pickle factory to the city line, \$360,000; raising the Penn. Ave. district from the Point to 11th St., \$180,000; widening of Grant Blvd., \$300,000; improvement of Amanda St., from Mount Oliver St. to South 18th St. road, \$93,000; improvement of Chartiers Ave., from Corliss St. to the Panhandle Railroad bridge, \$51,000; Beechview bridge, \$285,000; Mount Washington roadway, \$416,000; widening of Carson St. east, from Seventh St. to Brownsville Ave. (Panhandle bridge), \$60,000; Sawmill Run sewer, \$150,000; water improvements, \$300,000.

Wilkes-Barre, Pa.—At special meeting of council members decided to advertise for new bids for riprapping river common.

Clear Lake, S. D.—Election will be held Nov. 3 for voting on bond issue of \$100,000 for County Court House construction.

Galveston, Tex.—City Commissioners are preparing to advertise for bids for erection of new \$300,000 city hall and auditorium.

CONTRACTS AWARDED.

San Francisco, Cal.—Formal award of contract to construct Twin Peaks tunnel is to be made by Board of Public Works to Hans Pederson of Seattle, whose bid, only one filed, has been found satisfactory by City Engineer O'Shaughnessy.

Dubuque, Ia.—For filling culverts Nos. 13, 14 and 15, in Section 22, Center Township, to Bartels, Daykin & Gladwin, at 65c. per yd. for rock filling and 35c. per yd. for dirt filling.

Boston, Mass.—By Commissioner Public Works, for construction of refuse receiving station at Ward St., Roxbury District, to Merrimac Construction Co., \$15,973. Other bids as follows: John Bowen, \$17,784; W. H. Ellis & Son Co., \$18,326; Hapgood, Frost & Co., \$18,360; M. J. Fish & Son, \$18,894; C. J. Jacobs Co., \$18,986; Michael Meehan, \$19,410; H. P. Converse & Co., \$22,684.

Canoe Place, L. I., N. Y.—The contract for building a modern lock to replace the old tide gate in the Shinnecock and Peconic Canal has been awarded by the State to Eastover Construction Co. Contract includes, also, grading and other incidental work preparatory to construction of lock.

Dayton, O.—Contractor S. W. Shue will probably be awarded contract of completing upper story of Wayne Ave. market house at \$11,700.

Mansfield, O.—Contract has been let for police signal system to Gamewell Co. on its bid of \$2,500. This does not include wires, cross arms and labor for stringing the wires. System will include 13 patrol boxes, 14 flashlights for night service and four day gongs.

Titusville, Pa.—For building new jail, contract has been awarded to S. P. Conners at \$4,420.

Columbia, Tenn.—For construction of new jail residence, to Dugger & Tickle, of Mt. Pleasant, at \$8,639.15.

Tacoma, Wash.—By King County Board of Commissioners to Tweeden & Marsh of Tacoma for 20-in. electric dredge at \$72,000.

TOO LATE FOR CLASSIFICATION

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREETS AND ROADS				
Ia., Council Bluffs	.....8 p.m., Nov.	2..	1,800 sq. yds. paving, 106 cu. yds. broken stone.....	Charles J. Duff, City Clk.
Cal., Sacramento	.....Nov.	9..	39 miles state highway.....	State Highway Commission.
SEWERAGE				
Ia., Dubuque	.....8 p.m., Nov.	5..	Construction of sanitary sewer.....	J. J. Shea, City Recorder.
O., Canton	.....Noon, Nov.	11..	Construction of new sewage disposal plant, and laying three sections of main sewer.....	G. H. Wynn, Res. Engr.
WATER SUPPLY				
N. Y., Niagara Falls	.....4 p.m., Nov.	2..	Construction of water main.....	T. H. Hogan, City Clk
Ill., Chicago	.....11 a.m., Nov.	7..	Four bilge pumps	L. E. McGann, Comr. P. S.
LIGHTING AND POWER				
O., Salem	.....Noon, Nov.	9..	Electric current for street lighting.....	I. N. Russell, Dir. P. S.
FIRE EQUIPMENT.				
Pa., Philadelphia	.....Noon, Nov.	6..	Repairs to fire and police station.....	G. D. Porter, Director.
N. J., Paterson	.....8 p.m., Nov.	6..	3,000 ft. of 2½-inch hose.....	Bd. of Fire & Police Comrs.
Ore., Portland	.....2 p.m., Nov.	16..	One six-cylinder motor city service truck and one four-cylinder motor chemical engine.....	J. R. Wood, Pur. Agt.
BRIDGES				
N. Y., White Plains	.....Nov.	16..	Concrete bridge	Wm. Mercer, Supt. Hwys.
MISCELLANEOUS				
Ill., Chicago	.....11 a.m., Nov.	4..	530,000 repressed or wire cut vitrified facing brick.....	L. E. McGann, Comr. P. S.

STREETS AND ROADS

Pasadena, Cal.—Property owners on Conson St. have petitioned City Commission to have street improved from Hill Ave. to Sierra Bonita with a 35-ft. thoroughfare of 2-in. oil and rock, cement curbs and gutters.

Sacramento, Cal.—Board has issued call for bids for 36.72 miles of roadway in Solano, Siskiyou and Sutter Counties, as follows: Siskiyou, from Hornbrook to Yreka, 16.92 miles; Sutter, from Yuba City to the northerly county boundary, 11.7 miles; Solano, from a point 8½ miles south of Cordelia to Fairfield, 8.1 miles.

San Bernardino, Cal.—By vote of considerably better than three to one San Bernardino County voted \$1,750,000 for system of modern highways.

San Francisco, Cal.—The widening of Sloate Blvd. to 105 ft. is advocated by City Engineer in report filed with Board of Works.

Marlanna, Fla.—City has voted bond issue of \$3,000 for streets.

Lawrenceburg, Ind.—City Treasurer John F. Stahl has sold \$3,000 worth of city street improving bonds to People's First National Bank for par.

Shelbyville, Ind.—C. C. Shipp & Co., of Indianapolis, have purchased road bonds issued by county for building of Bush Road in Brandywine Township. Bonds are valued at \$9,980.

Bartlesville, Kan.—Petitions are being circulated for paving of Keeler Ave. from 5th to 14th St., also Dewey from 10th to 13th Sts.

Baltimore, Md.—Commissioners for Opening Streets are planning to bring about opening of 25th St., from Greenmount Ave. to Harford Road, next year and, with that end in view, provisions will be made for expenditure of more than \$24,000, on that project, through budget for next year.

Elkton, Md.—Elkton Improvement Association have appointed committee to confer with State Roads Commission, relative to extending State highway through this town.

Grand Rapids, Minn.—At meeting of County Board bids for construction of 15 miles of road in northwest part of county, running through towns of Moose Park, Alwood and Ardenhurst, were considered. In specifications there was provision made for removing of some 800 rods of old corduroy which is on right-of-way. Paddy McDonnell, of Duluth, bid to build road for about \$24,000 with \$10 per rod extra for removing the corduroy. The next lowest bid was that of M. N. Rosholt, who offered to build it for between \$28,000 and \$29,000, with \$3 per rod for removing the old corduroy. Upon figuring over job, commissioners

found that they could save matter of \$4,000 to \$5,000 by changing specifications so as to omit removal of corduroy, and they decided to reject all bids and readvertise.

Helena, Mont.—Approximately half a million dollars will be annually available for building of state highways under plan formulated by George R. Metlen, secretary of State Highway Commission, which, however, needs legislative sanction to put it into effect.

Cincinnati, O.—Committee of Streets and Parks have decided to recommend estimate be prepared for improvement of Public Square on Madison Road in Oakley. Preparation of estimate for improvement of Pavilion St. in Mt. Adams will be recommended, as will the improvement of Lincoln Ave., Walnut Hills.

Coshocton, O.—Coshocton County will vote election day on separate ballot to increase tax levy one mill for five years to build good roads in Coshocton County.

Salem, O.—Resolution has been adopted for improving Garfield Ave. by constructing intercepting sanitary sewers.

Philadelphia, Pa.—Petition has been drawn up, requesting Councils to have Susquehanna Ave. repaved with asphalt or wooden blocks from 13th St. west to 22d St.

Philadelphia, Pa.—A movement to obtain wood block paving in Germantown Ave., between York St. and Alleghany Ave., has been started by Central Germantown Avenue Business Association.

Williamsport, Pa.—Residents on High St., from Campbell to Walnut, are getting up petition which will be presented to Council asking that city pave that section of street.

Charleston, S. C.—Bids will be received at office of sanitary and drainage commission until 12 o'clock October 30, for supplying material and covering Belgian block roadway out of Charleston for distance of about 4 miles with mixture of asphalt and sand.

Electra, Tex.—Macadamizing of Main St. is being considered.

Temple, Tex.—Property owners residing on North First St. from Adams Ave. to Downs Ave. have united in signing petition for paving of that thoroughfare with concrete for distance of three blocks and 50 ft. in width.

Warwood, W. Va.—At meeting of Warwood Council matters relating to improving of road running to Hilton coal mine was discussed and members voted on having it repaired at once. It is thought that street commissioner in next few days will start on hauling stone.

CONTRACTS AWARDED.

Hamilton, Ala.—For constructing ap-

proximately 50 miles of graded road to Boyd & Bradshaw, Columbia, Miss., at \$60,000.

Little Rock, Ark.—For paving West 17th St. with asphalt to M. D. L. Cook, Little Rock, at \$5,885.

Sacramento, Cal.—Contract with Teichert & Ambrose, Sacramento, to improve north half of the Court House block for \$16,374 has been referred to District Attorney for approval.

Sacramento, Cal.—State Highway Commission has accepted one bid and directed that bids be called for construction of 36.72 more miles of State highway in Solano, Siskiyou and Sutter Counties. Contract let was in San Luis Obispo County, covering unit between San Luis Creek and Cuesta. Engineer's estimate on this work was \$53,779.17. Contract was let to Enoch J. Hunt, of Alameda, for \$46,605.65.

Sacramento, Cal.—Contract for improvement of Second Ave. and Park Ave. across annexed section of city from Lower Stockton Road to Sacramento Ave., has been let to Clark & Henery Construction Co., Sacramento, by City Commission. This will give paved street across annexed district.

Moline, Ill.—For paving 13th St. with asphalt to McCarthy Improvement Co., Davenport, Ia.

Frankfort, Ky.—By State Commissioner of Roads to James I. Hill to construct 1½ miles of water bound macadam in Lewis County. State and county will each bear half the expense.

Wyandotte, Mich.—For paving Oak St. from 12th to 13th, to P. D. Baker & Co., Detroit, Mich., at \$13,067.

St. Paul, Minn.—For paving section of Robert St. to General Contracting Co., Minneapolis, Minn.

Kansas City, Mo.—To the Cleveland-Trinidad Paving Co., Cleveland, O., for paving Cypress St., from 24th to 27th St., 6,097 sq. yds. with concrete. Approximate cost is \$5,426.

Bozeman, Mont.—To the Warren Construction Co., Portland, Ore., for paving College St., from Central to Tracy Ave.

Rome, N. Y.—For paving Bouck St. from Dominick to Whiteboro St., to Warren Bros. Co., 59 Temple Pl., Boston, Mass., at \$7,781.

Sioux Falls, S. D.—For paving sections of Summit Ave. and Ninth St. to C. H. Atkinson Co., Watertown.

Sioux Falls, S. D.—Mayor Burnside and City Auditor Levy have been authorized by City Commission to enter into contract for paving of Tenth St., between Dakota and Covell Aves. Contract was awarded by Commission to Fielding & Shepley, of St. Paul, Minn.